MAY 1927 ~ No. 256

Monthly

A Reference for Buyers

HITCHCOCK'S MACHINE TOOL BLUE BOOK

25,000

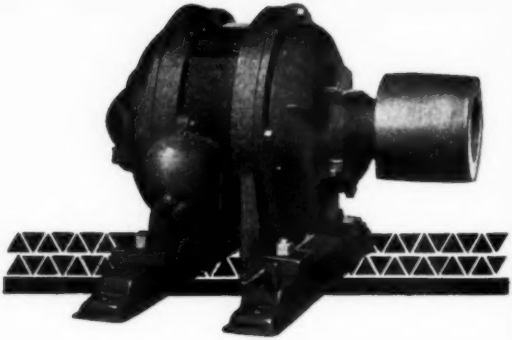
Controlled Circulation

Published By

HITCHCOCK PUBLISHING CO.

508 So. DEARBORN ST.

CHICAGO



The windings of Reliance Induction Motors are so thoroughly insulated that you can depend upon the motors to give satisfactory service even in dirty locations.

Bulletin 100 gives detailed evidence

Reliance Electric & Engineering Co.
1050 Ivanhoe Road, Cleveland, Ohio

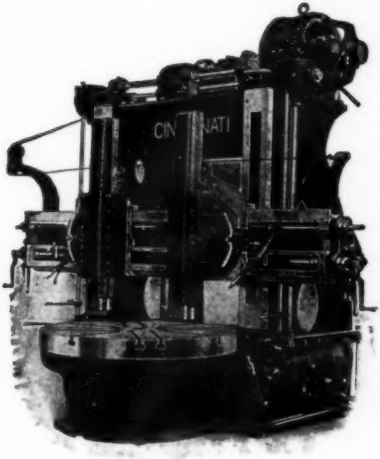
Branches:

Boston New York Syracuse Philadelphia Pittsburgh
Cincinnati Detroit Buffalo Chicago Birmingham, Ala.

RELIANCE AC DC MOTORS

CINCINNATI 42", 48", 60", 72", 84"

Rapid Traverse Boring Mill



Among its salient features are—Heavily reinforced table, driven by bevel gear and pinion; rapid power traverse in all directions; centralized control, with all fine adjustments, rapid traverse, hand operating handle, feed change, feed reverse, speed change, table control and brake levers, all within immediate reach of operator; box type housing; steel gears in feed and speed boxes; tumbler type gear changes, etc., etc.

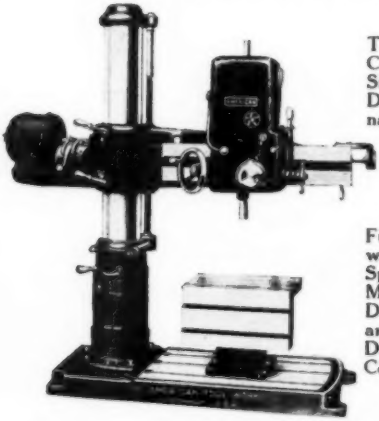
Write for Bulletin of Cincinnati Rapid Traverse Boring Mills, containing specifications and complete description, from which the practical mechanic will readily understand why the "Cincinnati" is selected for RAPID PRODUCTION.

The Cincinnati Planer Co.

Cincinnati, Ohio, U. S. A.

Radial Drilling—

At 2,000 R. P. M.



This shows our Constant Speed Simplified Motor Drive for Alternating Current.

Furnished also with Adjustable Speed Simplified Motor Drive for Direct Current and for Belt Drive thru 4-Step Cone Pulley.

American Maxi-Speed Sensitive Radial

While replacing your "good-enough-for-its-time" equipment with modern high-production tools, do not fail to include in your investigation the new American Maxi-Speed Sensitive Radial.

It combines the convenience and range of the radial with the speed and efficiency of the sensitive. Its dominant features are power, speed and convenience. It drills and taps holes up to 1 in. diameter faster, better and cheaper than ever done before.

Let us help you solve your drilling problems
Glad to be of service, and you'll not be obligated

The American Tool Works Company

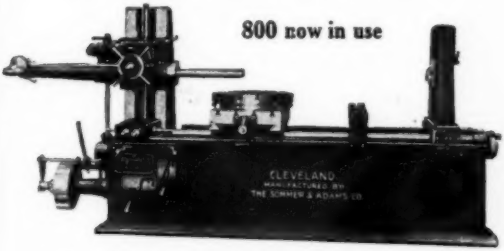
Cincinnati, Ohio, U. S. A.

LATHES **RADIALS** **SHAPERS**

No. 1 Cleveland Horizontal Boring-Drilling-Milling Machine

For Highest Economy in Operation

800 now in use



No. 1 Cleveland, with 2 ft. extra length of bed, 24 in. circular swiveling table graduated in ½ degrees, auxiliary table and power longitudinal feed to carriage

Designed for the widest range of usefulness in tools of its class. Highly productive, upon the basis of closest economy. The kind of tool it pays to install to replace out-of-date equipment.

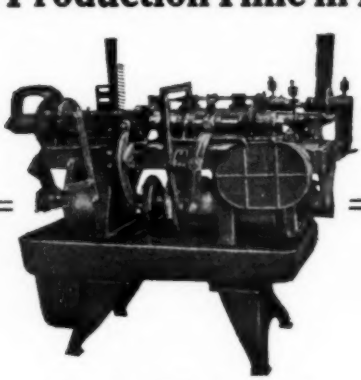
Our standard machines are all equipped with tapping attachment, power feeds to spindle, vertical power feeds to head, longitudinal feed to carriage, and power transverse feeds to platen. Speeds and feeds are reversible. Only one handle used to make complete change in speed or feed. All handles operated from one working position. All gears and moving parts enclosed. Right up to the latest practice in every way.

Get folder and look it over. Will you write today?

The Sommer & Adams Company

18512-18515 Euclid Ave., Cleveland, Ohio

Cut Production Time in Two



with the fully automatic

Kent Cap Screw Pointing and Shaving Machine

Simply keep the magazine filled and this fully automatic machine will point the ends, finish the under side of the head and shave the top of hexagon, square or round products in half the time formerly required.

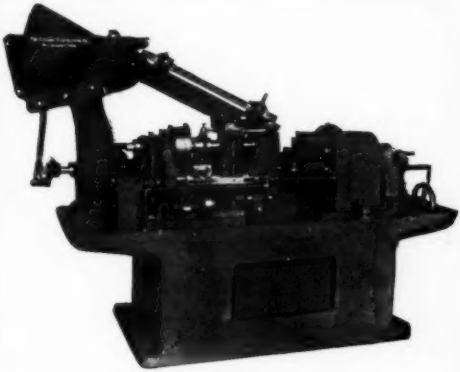
Let us submit actual capacities, details of operation, costs, etc., on products similar to yours.

Send for Bulletin and information

A Symbol of Quality on Any Machine

Threaders—Slotters—Drillers—Cap Screw Pointers and Shavers—Tappers—Bar Pointers—Tool Grinders.

The KENT MACHINE COMPANY
KENT, OHIO



"This is Production"

2800 Pointed and Threaded ½" Bolts Per Hour— One Operator!

WHEN USING

Four Economy Automatic Combined Pointing and Threading Machines.

Capacity ¼"x1" to ¾"x5½" Bolt and Cap Screws.

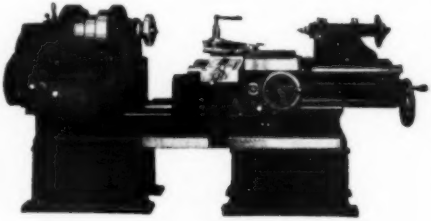
The Economy Engineering Company

WILLOUGHBY, OHIO

Rahn-Larmon 18"/36"

Extension Bed Gap Lathe

Also Made in Sizes 22"/40" and 28"/50"



The Ideal Lathe for Railroad and Jobbing Shops

Here is a lathe of the widest range, yet so sturdy in construction that it absorbs the vibrations of the heaviest cuts.

There is hardly a reasonable limit to the work it will do. It is always ready for practically any job, without tearing down or setting up.

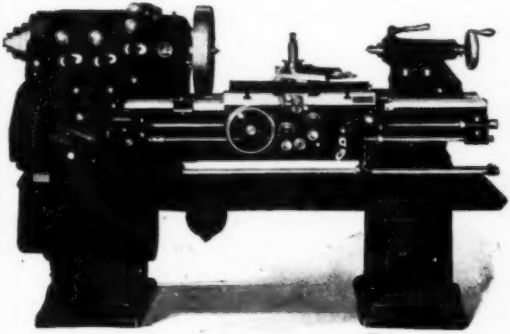
It saves in investment cost, it saves in time and labor cost, and it increases output—a most unusual combination. And it enables the operator to have at all times a lathe ready for 'most any job that comes into the shop.

Get in touch with us. Find out what this lathe will do for you and how it saves costs. Glad to go into the matter with you fully, without obligating you in any way.

The Rahn-Larmon Co.
CINCINNATI, OHIO

The Monarch Ball Bearing Helical Geared Head Lathe

Silent—Smooth—Powerful



Three and one-half teeth of the oil-hardened helical gears are always in mesh.

There is a noiseless, smooth, constant transmission of power, with higher spindle speeds than are possible through any system of spur gearing.

The result is greater production.

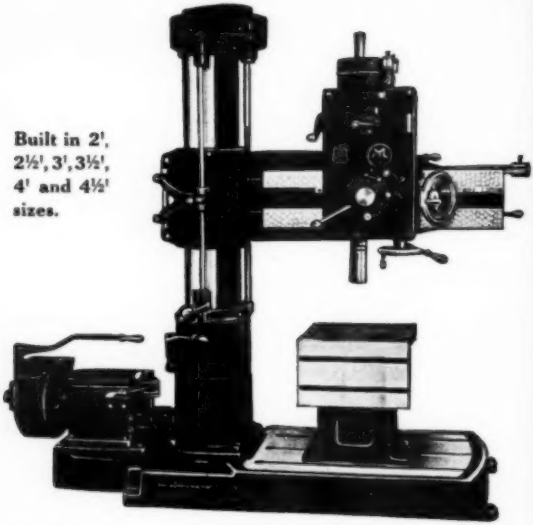
Write for complete description of Monarch Helical Geared Head Lathes from 14 to 30 in., with 5 ft. to 30 ft. beds. The folder describes many other modern features, including unusual ease of operation.

The Monarch Machine Tool Co.

Sidney, Ohio, U. S. A.

Morris Radial Drill

Built in 2', 2½', 3', 3½', 4' and 4½' sizes.



Morris Radials are rigidly constructed of the best materials with careful workmanship. The gears are alloy steel, heat treated and hardened. Each unit is oiled from a separate reservoir. They are simple and easy to operate. We can design and build drilling jigs to be used with these machines.

Morris Radials are built with speed box or motor drive on base, or with variable speed motor, or with constant speed motor in connection with ball bearing speed box mounted on arm.

Let us help you with your drilling problem

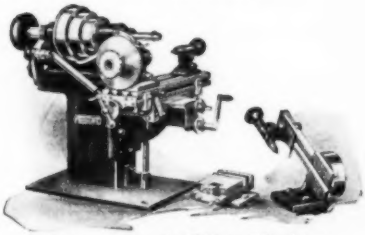
Morris Machine Tool Company

CINCINNATI, OHIO

HARDINGE

Milling Economy!

With New Conveniences and a Wide Range of Feeds, This Miller Affords You Real Savings



Cataract Bench Milling Machine

MANY YEARS of practical experience taught the designers and builders of this Bench Miller just what ought to go into a machine of this sort. You will find it unusually useful, doing its work with precision accuracy, and having available a wide range of feeds for practically all jobs that come within its range.

Complete data and the interesting price gladly sent you on request

Hardinge Brothers Inc.
4149 Ravenswood Ave.
Chicago, Ill.

For Small Shaping and Slotting

7 in. Shaper Stroke

3½ in. Slotter Stroke

The Rhodes Shaper and Slotter

Consider the cost of shaping and slotting in your tool room. Isn't it excessive?

Then let the "Rhodes" establish the proper balance between cost and production. It is fitted to handle any type of work that falls within the dimensions given above, with a precision equal to that of larger and more expensive shapers, and with greater facility.

The "Rhodes" is constructed of the finest material thruout, and in point of quality is the peer of any shaper made.

Ask your dealer or write for
CATALOG H22

The Rhodes Mfg. Company
944 Park Road, -:- Hartford, Conn.

SHAPERS — RHODES — SLOTTERS

LeBLOND
Patent Belt Shifter

A necessary safety factor and a valuable production increasing feature. It is applicable to any cone pulley driven machine tool.

Write for our descriptive booklet and prices

THE R. K. LeBLOND MACHINE TOOL COMPANY

CINCINNATI OHIO

Cutter and Tool Grinders

For All Classes of Work

No. 12
Cutter and Tool
Grinder

The Nos. 10, 11 and 12 give a range of sizes that will take care of any kind of cutter and tool work as well as light cylindrical grinding.

Let us recommend the proper sizes for your work

LANDIS TOOL COMPANY

Waynesboro, Pa.

New York Office: 2907 Singer Bldg. Detroit Office: 5928 Second Blvd.
Chicago Office: 618 W. Washington Blvd.

Grand Rapids No. 2 Universal

Cutter, Tool and Drill Grinder

With Self-Contained Motor Drive

An ideal machine for the shop whose requirements do not demand larger or single-purpose machines.

As a drill grinder it gives equal lengths and correct angles to the cutting lips, with proper clearance, etc., insuring maximum drilling capacity.

And it grinds with the highest efficiency any type of cutter, reamer, etc., that any grinder will handle with its special equipment, within its capacity as to size.

Write for the Bulletin

Gallmeyer & Livingston Co.

342 Straight Ave., S. W., Grand Rapids, Mich.

Manufacturers of Grand Rapids Drill Grinders, Cutter and Tool Grinders and Tap Grinders. What do you need?

Avey

Get this book before you do your 1927 tooling

—if not already using Avey Drilling Machines

Among the 20 sizes and types of Avey Drilling Machines you will find just the machine you want. Each is supreme in its class, backed by our absolute guarantee.

All-ball-bearing, automatic, semi-automatic or hand-operated—1 to 6 spindles—there's an Avey for every class of work and size of hole.

The Avey Drilling Machine Co.
Cincinnati, Ohio

Demco Drills

Increased Production

can only be secured from machines that have been especially designed to give continuous, reliable service. These machines must have wearing parts that require practically no attention.

In sensitive drilling machines the spindle is the part where the greatest wear occurs.

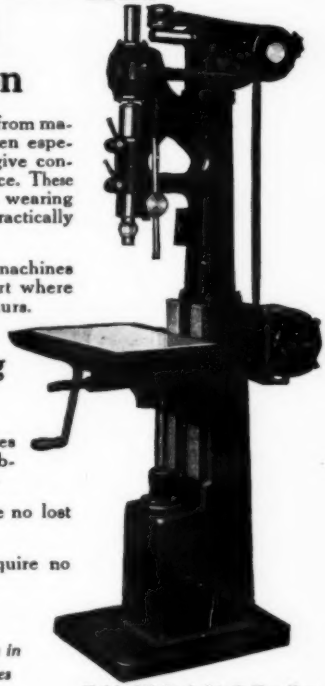
Demco Drilling Machines

have the only spindles on the market that absorb their own wear.

Demco Spindles have no lost motion.

Demco Spindles require no adjustments.

For sale by machinery dealers in all principal cities



Model—DH, Single Spindle Floor Type.

DEMCO DRILLS—Cleveland, O.

Division of

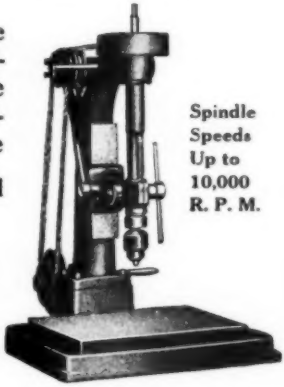
Merit Oil Equipment Co., Cleveland, O.

Don't Forget—

Wood, Fibre, Rubber, Paper, Mica, Bakelite

as well as the ordinary metals can be drilled to advantage on the

Leland-Gifford Super-High-Speed Ball Bearing Drilling Machine



Spindle Speeds Up to 10,000 R. P. M.

Write us about this Drill to speed up your drilling operations.

Ask for Bulletin No. 502

Leland-Gifford Company, - - Worcester, Mass., U. S. A.

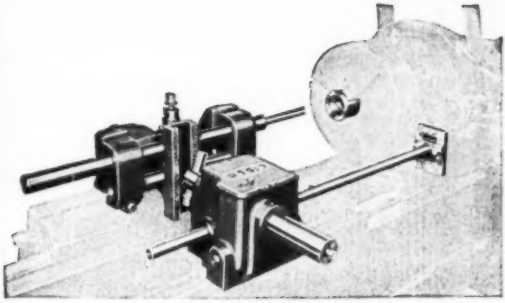
BRANCHES

BOSTON CHICAGO CLEVELAND
DETROIT NEW YORK
PITTSBURGH ROCHESTER

AGENTS

Meacher & Bolthoff — Denver
F E Satterlee Company — Minneapolis
Leland-Wright Machy. & Supply Co. — St. Louis
Herberts Machinery & Supply Co. — Los Angeles, San Francisco
F E Barber Machinery Co. — Toronto

LELAND-GIFFORD



....oil-groove bearings like these—*four a minute!*

The Cisco Oil Grooving attachment is handily attachable to any lathe 16 to 20 inches inclusive; cuts a single or double oil groove of figure eight type inside or outside the bearing, the style and depth of groove being readily changeable by the operator.

Effective and efficient on small or large quantity production. The range of the regular machine is 6 inches in stroke length, but this can be lengthened depending upon the size machine mounted on. The diameter of the work to be oil grooved, is not controlled by the attachment, but by the size of the machine and chuck used.

The time required for putting an oil groove in a brass bush 2 inches long and 2 inches in diameter, in and out of the machine, is about four pieces per minute.

This is the most convenient and economical device available for oil grooving. It is a time-saver and money-maker wherever installed. Write for bulletin and prices.

The Cisco Machine Tool Co.

1700 Elmore Street, Cincinnati, Ohio

A Single Spindle Footburt Sipp Sensitive Drill

Made in three sizes of single and multiple spindle models

More holes with this machine

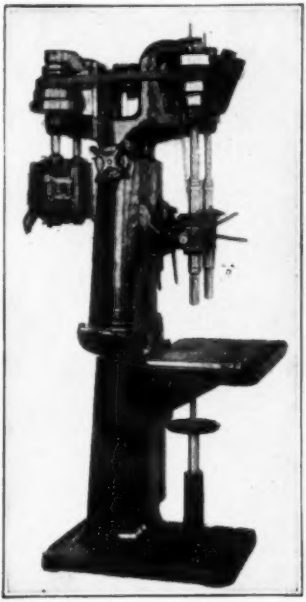
Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

The Foote-Burt Company, Cleveland, O.

Edlund High-Speed Ball-Bearing

Sensitive Drilling Machines



The Edlund Sensitive Drilling Machine, with built-in motor, shown in the illustration, is furnished with from one to six spindles.

The motor is bolted to a plate on back of frame, and so connected that all belt pull is removed from the motor shaft.

All speed changes are made from the natural position without stopping the machine.

Six ball bearings are used for each spindle.

EDLUND Production Drilling Machines are furnished with belt or motor drive; in single or multiple spindle; with or without power feed; some with built-in tapping spindle; types and sizes for varied requirements; all produced with the "know how" of long experience, for the purpose of drilling holes at lowest cost.

Write for description and put your drilling problems up to us

Edlund Machinery Co., Inc.
Cortland, N. Y., U. S. A.

Taylor & Fenn Belt Driven

No. 12 Spring Press

UNIFORM BLOW SPRING PRESSES

Are made in three sizes, with either single or double action

Our No. 12 Belt Driven Spring Press, illustrated above, has a stroke of 3¼ inches. The foot treadle operates a safety clutch attached to the flywheel, which automatically stops the machnie after each stroke regardless of whether the treadle is released or held down by the operator. The clutch can be adjusted for a continuous stroke if desired.

Descriptive circular gladly sent upon request

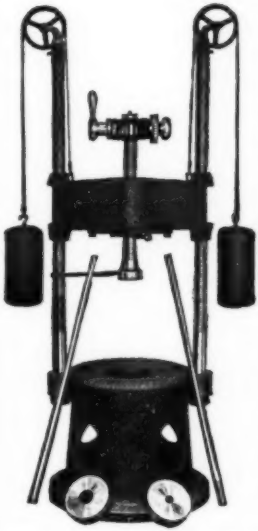
The Taylor & Fenn Co.

Hartford, Conn., U. S. A.

BARNES

Adjustable Arbor Presses

SAVE TIME



The cross head can be instantly dropped to the work, locked in position, and with a few turns of the center screw (ratchet operated) the required pressure can be applied.

Made in three sizes—the largest admits 36 inches between screws and has a capacity of 50 tons pressure.

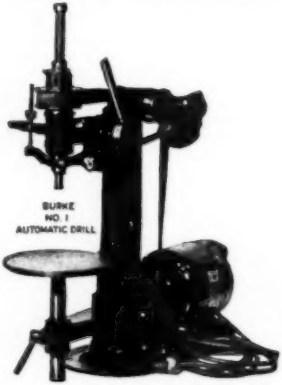
Write for full information

Established 1872

W. F. and John Barnes Co.

Rockford, Illinois

BURKE



The No. 1 Automatic Production Drill, shown, has proved itself worthy of the name either operated singly or in gangs.

There is no comparison on production costs. The spindle is full automatic allowing the operator the freedom of both hands. These machines are well built to stand in any production line and will give real service.

It has been made possible, by our production methods, to place these tools on the market at very low prices.

Write for full particulars

Drilling, Tapping and Milling our Specialties

The Burke Machine Tool Co.

297 E. 16th St., Conneaut, Ohio

Built in 3 sizes . . .

3
Sizes

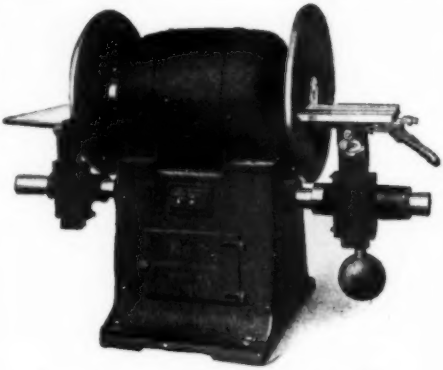
THE new "N" Type Taylor Welders are built in three sizes, to meet a wide range of welding requirements. At every point these sturdy continuous-service welders are reinforced, parts being reduced to a minimum, wearing points kept to lowest possible number and accessibility and convenience considered throughout their design.

Write for new illustrated folder, detailing various exclusive features.

THE TAYLOR WELDER CO., Warren, O.

NEW YORK, 50 Church St. CHICAGO, Peoples Gas Bldg. DETROIT, Gen. Mtrs. Bldg.
CLEVELAND, Union Mortgage Bldg. PHILADELPHIA, 1220 Real Est. Tr. Bldg.

TAYLOR
Type "N" SPOT WELDERS



For economical grinding of flat surfaces—

GARDNER DISC GRINDERS!

46 standard sizes and types, and an endless number of special machines —for an unlimited variety of work.

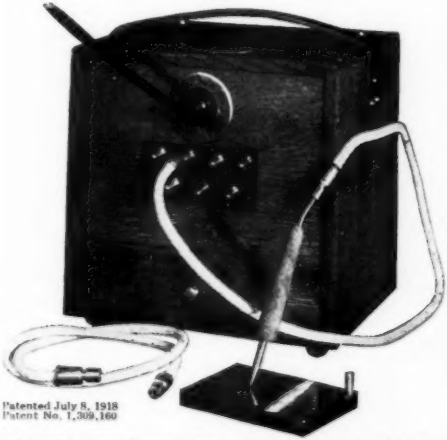
SEND FOR CATALOG!

GARDNER MACHINE COMPANY

Near Wheeler Ave., Beloit, Wis., U. S. A.

Etchograph

Trade Mark



Patented July 8, 1918
Patent No. 1,369,160

Do Your Tool Marking Electrically!

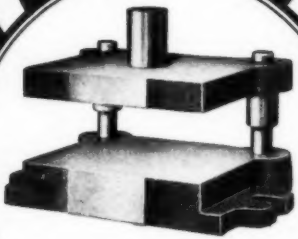
This ***Etchograph***, the ***Original Electric Marker,*** will mark any style figure, letter or design on tool and machine parts, whether of steel, steelite or iron and do it in one-fifth the time of older methods.

" It's made writing on steel like writing with a pencil on paper."

Write for illustrated descriptive booklet and mention power available

William Brewster Company

50 Church St., New York



Danly Die Sets

Completely assembled or in the "knockdown"

Big savings always follow the adoption of Danly Standard Die Sets. The experience of nearly 4000 makers of stampings prove that.

Send for our 54-page catalog

Danly Machine Specialties, Inc.

2116 So. 52nd Avenue, Chicago, Ill.

Detroit Mich. **Long Island City N. Y.**

DANLY STANDARD

"Tapping by Air—

Has taken the place of 18 men"

—Writes One Purchaser

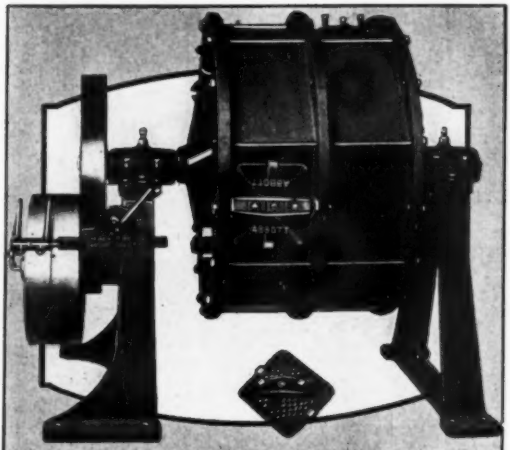
Triples Production

Carry out—automatically—the old ideal of accuracy involved in hand tapping, yet increase your production 300%.

High Speed Pneumatic Oscillating Tapping Machine

Tell us your requirements and we will make a guaranteed production estimate.

W. GATERMAN MFG. CO., Manitowoc, Wis., U.S.A.



Abbott Burnishing Barrel Finishes at Fraction Cost

Hand burnishing produced highly satisfactory results, but it was slow and costly. The Abbott Ball Burnishing Barrel combines the advantages of hand burnishing with speed and uniformity, which are not attainable with any hand or semi-automatic method.

Investigate! Put your finishing problem up to us. Send us representative samples of your work so that we can conduct experiments and make recommendations for equipment best suited. No obligations.

THE ABBOTT BALL COMPANY

"Originators of Commercial Ball Burnishing"

1043 New Britain Ave., Hartford, Conn.

MARTINDALE

Electric Etcher

For marking gauges, dies, gears, saws, tools, drills, shafting and all other articles made of iron or steel. It is much quicker and more satisfactory than the old paraffine and acid method. Writes like a pencil and burns the letters in the steel, making a permanent and legible record.

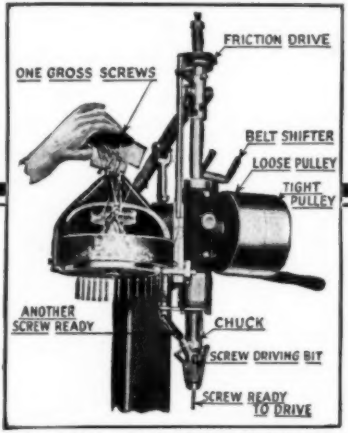
MARTINDALE ELECTRIC CO.
1260 West 4th St., Cleveland, Ohio

Please send bulletin on Etcher to

4-5-26

Don't Be Robbed

By Excessive Screw Driving Costs



Showing Magazine Feed of the Reynolds Automatic

The cost of driving screws by any other method is excessive when compared with doing the same work by means of—

Magazine-Feed Screw Driving

The magazine feed of the Reynolds Automatic does all the handling of screws. The operator simply pours a gross or more into the hopper, handles work with both hands and presses a foot lever.

Users of one to thirty or more Magazine-Feed Machines say they reduce costs 65 to 85 per cent—a recent letter says one machine saves $2,000 a year.

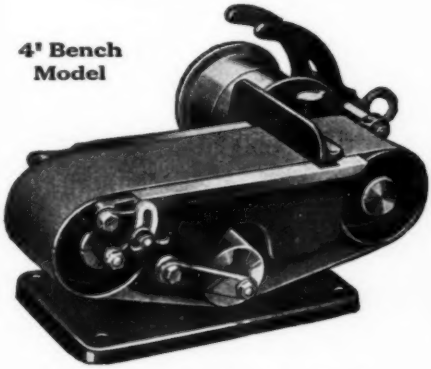
There's a "Reynolds" for your needs. No matter what kind of screws you use, tell us their length and gauge, with dimensions over all of your work, and let us submit our proposition for a substantial cost reduction.

The Reynolds Machine Company

Dept. H. H., Massillon, Ohio

PEERLESS
SURFACING MACHINES
for
Grinding and Finishing
Flat Work

4' Bench Model

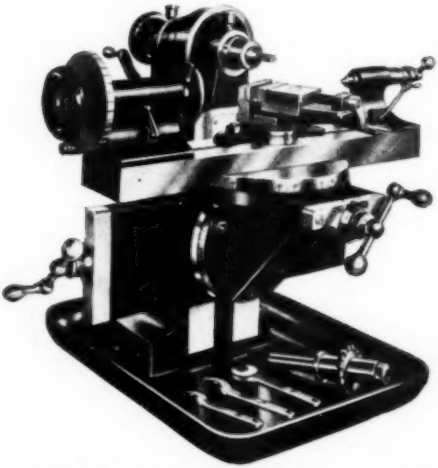


Larger Machines in Both Horizontal and Vertical Styles

SEND FOR FOLDER

PEERLESS SURFACING MACHINE CO., Inc.
TROY, N. Y.

SLOAN and CHACE **Precision Tools**



Sloan & Chace Bench Milling Machine

The speed with which jobs can be set up on this machine, its perfect alignment, and its accuracy make it the ideal miller for tool room requirements, experimental jobs, and the more economical handling of work now performed on larger machines.

It is so compact that it occupies the minimum of space, yet the manner in which the cutting table can be moved, both vertically and horizontally, gives it an unusual flexibility and range.

Write for Catalog of Sloan & Chace Precision Tools
Bench Lathes—Millers—Gear and Pinion Cutters

Sloan & Chace, Inc.

361 Sixth Avenue, Newark, N. J.

"Hallowell" All-Steel Tool Stands

make for faster work!

Write for prices, today!

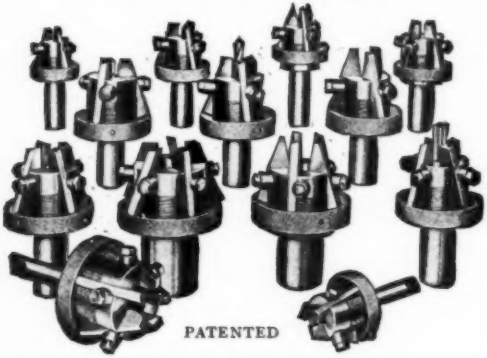
With "Hallowell" Tool Stands you move the tools to the job. Quicker—easier. Broad open shelves—tools always in sight—no time wasted hunting the right one.

Standard Pressed Steel Co.

Box 19 Jenkintown, Pa.

Manufacturers of "Pioneer" Hangers and "Unbrako" Set Screws and "Gast" Oilers for Loose Pulleys.

Genesee Hollow Mills
Are Self-Salvaging



Genesee Hollow Mills have the accuracy and range of usefulness at low cost that make for true tool economy.

Seven sizes cover the entire field from 1/8" to 2", and machine all sizes in these limits with unsurpassed accuracy and speed—cutting up to 15" inches a minute in steel.

No matter to what usage you subject "Genesees," they never clog or change in size. Their blades can be ground to any angle, and as they are replaceable, they are self-salvaging and will outlast from 7 to 10 solid tools.

As cost reducers Genesee Hollow Ground Mills have been a revelation to manufacturers everywhere.

Let us give you detailed information

Genesee Manufacturing Co., Inc.

141 North Water Street, Rochester, N. Y.

Manufacturers of Genesee Rapid Production Tools. ***Est. 1908***

Simplicity—

Keynote of the Catlin Keyseater

With less than half the number of parts of other keyseaters, Catlins are proportionately simpler machines to operate. Any average mechanic can produce top-notch results with a Catlin.

They have been found thoroly successful in automobile plants, government shops, navy yards and many big factories, both at home and abroad.

The machine shown here takes care of the needs of most machine shops. The stroke is adjustable up to 13", and it cuts keyseats from 1/16" to 1½". Our other sizes will do all the keyseating that may come up in any shop or ship yard.

Economy

On some classes of work it is possible to keyseat piece after piece without clamping down the work, or stopping the machine.

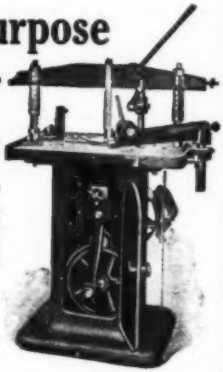
Catlins are making new records right along—why not have them save time and money in your shop?

Let us mail you the interesting folder, describing the various sizes, including their capacities

Chattanooga Machinery Company

2401 Bennett Ave., Chattanooga, Tenn.

Davis All-Purpose Keyseater

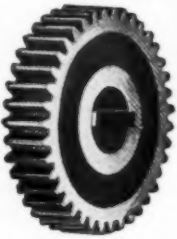


From the largest, to the smallest keyseating job, the DAVIS can be set up quickly for each item of a run of mixed work.

The Cutter

In sizes from 1/16 to 1-inch

And a Satisfactory Job



Cuts key-ways in pul-leys, gearblanks, bell cranks, crank handles, etc.; does slotting & oil grooving.

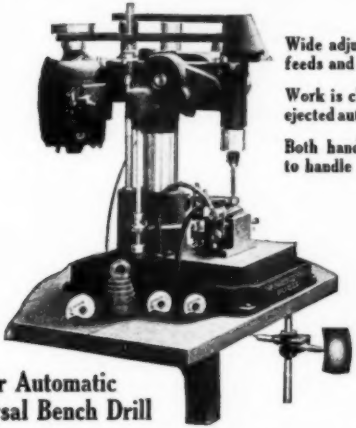
Two sizes. Write for folder, with table of cutting time.

Davis Keyseater Company

255½ Mill Street, Rochester, N. Y., U. S. A.

Economy Production

On Small Parts Of All Shapes



Wide adjustability of feeds and speeds.

Work is clamped and ejected automatically.

Both hands left free to handle work.

Stecher Automatic Universal Bench Drill

A momentary pressure on the knee control under the bench, and the Stecher Automatic does the rest, leaving both of the operator's hands free to handle the work. It clamps the piece, feeds the drill thru it, and ejects it without a hitch.

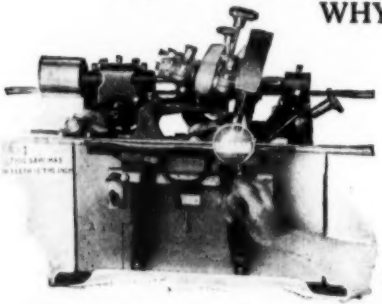
The number of holes that can be drilled in a given time is limited only by the capacity of the drill; the feed and speed of which are easily adjustable to the work in hand.

By merely pulling down the hand lever the Stecher will change from an automatic production tool with a power feed, to a high speed, hand feed, sensitive drill press.

Send us a sample of your small parts to be drilled, and we will show you real economy

The Chas. Stecher Co., 2452 N. Greenview Ave., CHICAGO, ILLINOIS

A NEW SAW COSTS OVER A DOLLAR
5¢ RESHARPENS A DULL ONE



WHY THROW AWAY YOUR DULL SAWS?

Buy a Grinder and Resharpen them 6 to 8 Times

Model A-2 Hard Tempered Metal Cutting Band Saw Grinder

THE WARDWELL MFG. CO.

Specialty Manufacturers of the largest line of Saw Filers made in the U. S. A.

108 Hamilton Ave., Cleveland, Ohio

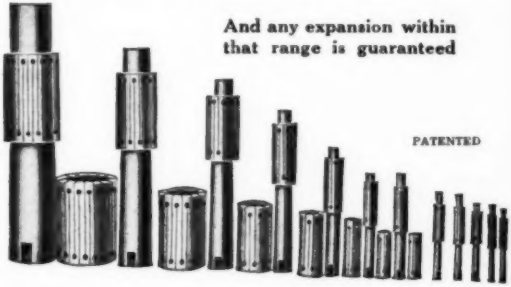
Our Grinders Will Sharpen Saws with Teeth up to 32 to 1"

MODEL E
Salvages all Cold, Milling, Slitting and Screw Slotting Saws.

JUST 1 SET OF 12

Champion Expanding Mandrels

Will fill by thousandths any inside diameter from ½" to 6½"



And any expansion within that range is guaranteed

PATENTED

So Simple—only two parts.

So Handy—always ready for any job.

So Efficient—dependable for precision accuracy.

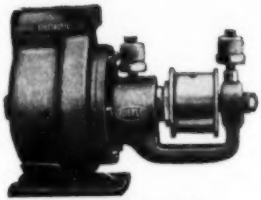
They are suitable fo all classes of work, large or small, in all kinds of metal. They hold work of any length of bore and do not chatter. They are lighter, more easily handled, and keep truer than common mandrels. They release work easily. And the grinding of all parts after hardening insures the greatest accuracy. The cost is only about one-fifth that of solid arbors of equal range graduated by sixteenths.

Our Catalog also describes

Champion Tool Holders, Champion Emery Wheel Dressers, Machinists' Vises and Clamps, etc., and our large line of practical, hard-to-beat Shop Furniture. Copy upon request.

The Western Tool & Mfg. Co.

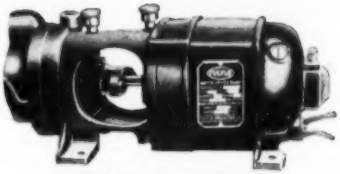
SPRINGFIELD, OHIO



GRINDER PUMP

FULFLO

VOLUME PUMPS



MOTOR DRIVEN UNITS
⅛ to 5 H. P. 5 to 75 G. P. M.

FULFLO delivers coolant in volumes which promotes efficiency in cutting tools.

The full, copious flow from the Fulflo is needed to make the best tool, with the best coolant, most effective.

FULFLO does not clog, therefore it always works. It's the trouble proof pump.

No machines stopped to unclog pump. All the chips you can get into it pass through without harm.

FULFLO has longest life because its only pumping part does not wear.

MANUFACTURED BY

FULFLO SPECIALTIES CO., BLANCHESTER, OHIO

Westinghouse Uses 34 Rarefieds

Such recognition must be earned!

Only after long trial and careful testing could the "Rarefied" be singled out for such distinction, but when you stop to consider the features that make for its superiority, this recognition seems well deserved.

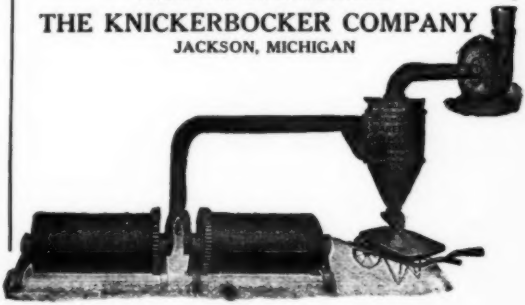
It operates on a partial vacuum principle that automatically collects and discharges all heavier than air dust.

It is so designed that screens are obviated. There can be no clogging; and no need for hand cleaning.

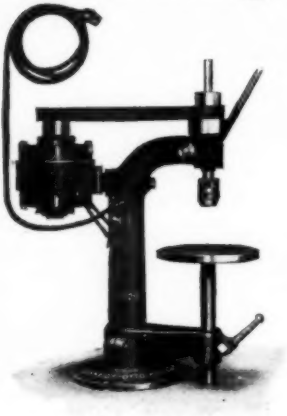
As the suction is constant, there is no friction; accordingly repair costs are held at zero, and a 40% power saving is often affected.

Let us send you a list of big users—they can tell you from actual experience.

THE KNICKERBOCKER COMPANY
JACKSON, MICHIGAN



Eliminating Vibration



Canedy-Otto

Sensitive Bench

Drill No. 29

Drills to a 10" center.
Capacity ⅜" diameter.
Run of spindle 2½".
Run of table 7".
110 V.–60 Cy.–1 Phase
1100–2200 R. P. M.

$44.00

Ready for the Job

Comes complete with Toggle Switch, Cord, Socket, Belt and Chuck

The vertical type ball bearing motor with which the Canedy-Otto No. 29 in equipped is attached in such a manner that the proper tension is constantly exerted on the belt, preventing loss of power. This design eliminates the use of gears and operates at high speed without noise or vibration.

All parts are accurately machined and balanced for high speed work. The spindle is so ground and fitted with ball thrust bearing and chuck that true running is insured.

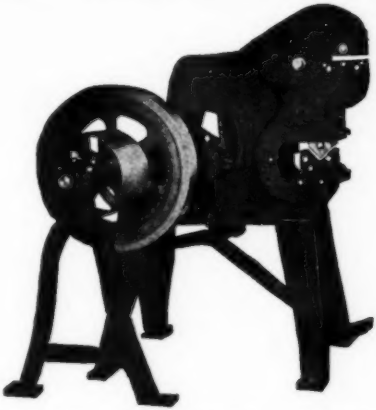
Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois

New York Branch
407 Broome St.

Complete stock carried at branches

San Francisco Branch
955 Folsom St.



No. 52—Built in Seven Sizes

BELOIT

Combined Power Punches and Shears

Series 51 to 56

The Beloit Combined Power Punches and Shears offer an unequalled combination of simplicity of design, construction, range of capacity, and moderate initial cost.

Invaluable in any plant for punching, shearing and fabricating steel bars or structurals.

An indispensable equipment for the manufacture of automobile springs and bumpers.

Tell us about your Punching and Shearing requirements. Our line is extensive, and we have a Beloit Machine for your work.

Send for our new catalogue No. 11 which describes the Beloit line of Punches, Shears and Bending Rolls.

Hendley & Whittemore Co.

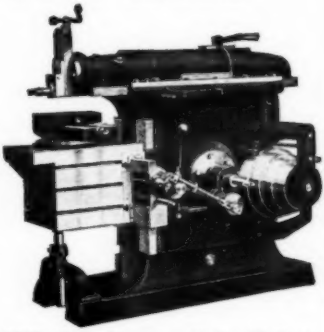
100 S. State St. -:- -:- BELOIT, WIS.

SHAPERS

12", 14", 16" Plain Crank, 16", 20", 25" B. G. Crank, either Cone Driven or through Speed Box.

Belt Shifter Regular Equipment All Cone Driven Shapers.

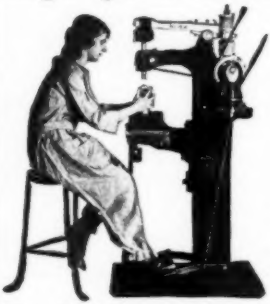
32" Back Geared Crank, Single Pulley Drive.



The Smith & Mills Co., Cincinnati, O., U. S. A.

High Speed Riveting Hammers

(Patd.)



Cold Riveting

1/64 to 1½" in diameter

Write for Catalog "C"

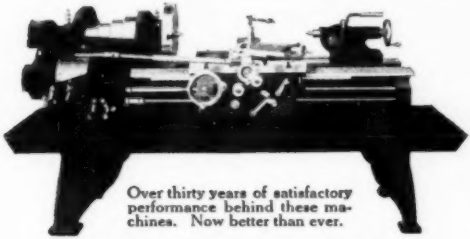
SEND SAMPLES to be riveted and returned with complete production data.

The High Speed Hammer Company, Inc.

311 Norton St., Rochester, N. Y.

HAMILTON Rapid Production

Lathes—Planers—Vertical Drills



Over thirty years of satisfactory performance behind these machines. Now better than ever.

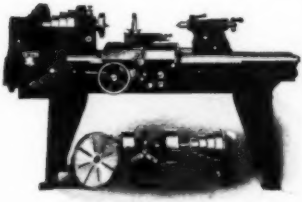
Various sizes and types, belt or motor driven. It will pay you to investigate.

The Hamilton Tool Company, Hamilton, Ohio

Live Agents Wanted In Open Territory

Carroll Invisible Gap Bed Quick Change Gear Lathe

Takes care of a large variety of work—



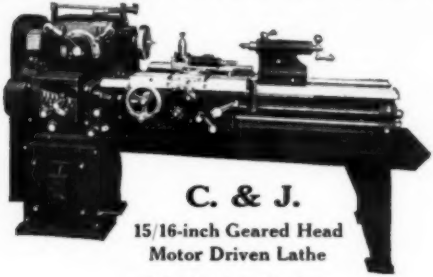
for the
Service Station
Mfg. Plant
Jobbing Shop
Tool Room
and Schools

Circulars and prices sent on request

A. V. Carroll Machine Tool Co., Norwood, Cincinnati, O.

Excess Capacity—

A NEW DESIGN to meet Best Modern Standards



C. & J.

15/16-inch Geared Head
Motor Driven Lathe

Ask for further details

Carroll & Jamieson Machine Tool Co.
Batavia, Ohio

OLIVER OF ADRIAN

Die Making Machines

save an average of 50%

Dies, templets, experimental parts, gages and the like can be sawed, filed and lapped on the Oliver of Adrian Die Making Machine much easier, more accurately and in a fraction of the time ordinarily required for handwork.

We also manufacture a line of

Point Thinners.
Drillpointers.
Profilers.

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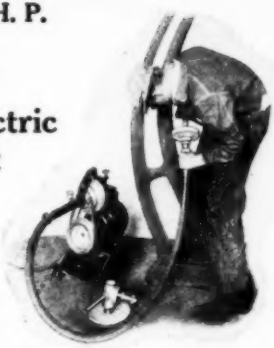
Oliver Instrument Company, 1408 Maumee St., ADRIAN, MICH.

Type C-4—One H. P.

MALL

Portable Electric Flexible-Shaft Grinding Machine



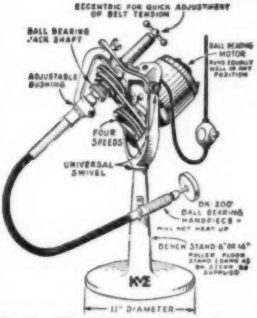
smoothing castings by grinding before painting.

MALL TOOL CO., 7740 So. Chicago Ave. CHICAGO, ILL.

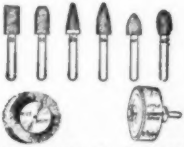
Makers of the largest assortment of Electric Flexible-Shaft Machines and Attachments. Write for Catalog.

Keller "BK" Flexible Shaft Grinder

"The Machine of 100 Uses"



¼—⅓— ½H. P.
Speeds up to 10,500



COMPLETE LINE OF ACCESSORIES

Rotary Files—
Emery Wheels—Sanding Drums—
Wire Brushes, Etc.

Keller Mech. Engineering Corp., 58A Washington St., **Brooklyn, N.Y.**

(See Page 52)

The Utility Sleeve Detachable Taper Shank

Use one with all your straight shank tools, and you will discover a new field in tool economy.

Simply insert the shank of a drill or reamer into its sleeve, and the "Utility" works as positively and efficiently as a solid taper shank tool.

The substantial saving is obvious, for it not only obviates expensive chucks, but when the tool is worn or broken you merely discard the straight shank, not the whole taper shank.

Glenzer tools establish economy—send for circular.

The J. C. Glenzer Co.

6469 Epworth Boulevard

DETROIT, MICHIGAN

Thor ELECTRIC DRILLS

—For Better Drilling

—and cheaper drilling, too. A ***Thor*** will reduce your drilling costs so much that you'll wonder why you didn't install "Thors" sooner. Powerful and rugged, ***Thor*** Drills eat up the work and stay on the job hour after hour, week after week, for years. Shocks are impossible because a 3 wire safety cable is standard equipment. Ask a ***Thor*** salesman about our 30 day free trial offer—***or write us.***

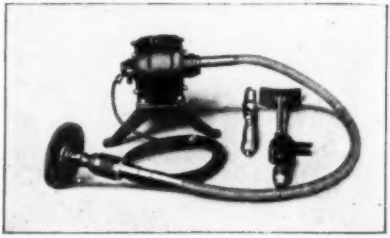
Have you our catalog on file?

Independent Pneumatic Tool Co.

600 W. Jackson Blvd., Chicago, Ill.

The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy grinding or polishing job



Send for our latest bulletin

Stow Flexible Shaft Co., 3454 Ludlow St., Philadelphia, Pa.

The Best Since 1876

Proved Reliability—

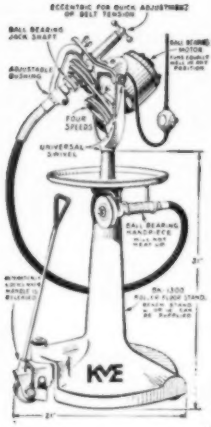
Speed—Economy

The Cincinnati

DRILLS
BUFFERS
GRINDERS

Write for catalog and prices

The Cincinnati Electrical Tool Co.
2678 Madison Road
Cincinnati, Ohio



Keller "BK"

"The Machine of a Hundred Uses"

¼ — ⅓ — ½ — H. P.
SPEEDS UP TO 10,500

Non-Heating Shafts
Ball Bearing Handpieces

FILING— GRINDING—
POLISHING—DRILLING—
ETC.

Tell us your problems

Keller Mech. Engineering Corp.,
58A Washington St., Brooklyn, N. Y.

(See Page 49)

Good Work *follows* Good Light

YOUR investment in an inexpensive "AUTEX" swivel-jointed extension reel will be paying you big dividends long after the first cost is forgotten.

An "AUTEX" enables your men to do better work in less time. Popular in Machine Shops, Service Stations and Industrial Plants of every size.

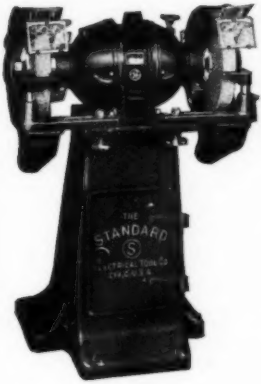
Approved by the Underwriters

Now equipped with Belden Rubber Cord

Write for descriptive circular and the low price

The Cincinnati Specialty Mfg. Co., Inc.
1903 Powers St., Cincinnati, Ohio

Standard Ball Bearing Grinders



Made in sizes from ¼ H.P. up to 5 H.P.

Tool Post Grinders
¼ to 2 H. P.

Polishing and Buffing Lathes
¼ to 5 H. P.

Aerial or Hand Grinders
¼ to 3 H. P.

Bench Grinders and Buffers
¼ to 2 H. P.

Drills—¼" to 1½".

Send for Catalog

The Standard Electrical Tool Co.

1948 W. 8th St.,
CINCINNATI, OHIO

NORTH SIDE

Electric

Grinders—Buffers

Built complete ready to run.
No extra wiring required.

SIZES—¼, ½ & ¾ H. P.
A. C. 110 or 220

The North Side Tool Co.
DAYTON, OHIO

BIAX

Biax makes flexible shaft machines for drilling, boring, grinding, polishing, screw-setting, nut-setting, etc.

Special machines for—

Automobiles	Motor Repair Shops
Speedometers	Pattern Shops
Woodworkers	Boilers (Cleaning)
Railroads	Machine Shops
Street Railways	Welders—Foundries

Write for catalogue H

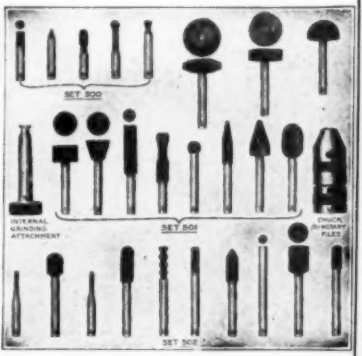
Biax Flexible Shaft Company

136 Liberty Street, NEW YORK CITY

Mid-West Distributor—Tachometer Division Elgin National Watch Co., Chicago, Illinois.

Southern Distributor: Biax Flexible Shaft Co., Charlottsville, Va.

HIGH SPEED HAND CUT ROTARY FILES



Strand Rotary Files

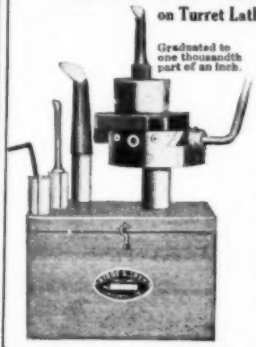
Used with Strand Flexible Shaft Machines. Are giving excellent service.

Write for Catalog

N. A. Strand & Co.
5001 No. Lincoln St.
CHICAGO

R & G Adjustable Boring Tool

Invaluable in the Tool Room and on Production Work on Turret Lathes, Horizontal Mills, Etc.



It saves time and insures accuracy in boring jig plates, dies, etc., on milling machine table and drill press, that cannot be handled on the lathe. It readily trues to size holes drilled on turret lathe.

Only $38

If standard taper shank is required, the price is Five Dollars extra.

Send us your order or write for complete description of this handy, time-saving outfit.

Ribbe & Grey

La Porte, Ind.

ARMSTRONG COMPLETE LINE OF Ratchet Drills

Packer, for rough service; ***Standard,*** for general use; ***Weston,*** extra heavy; ***Universal*** and ***Short Ratchet.***

Write for our Ratchet Drill Catalog

The Armstrong Universal

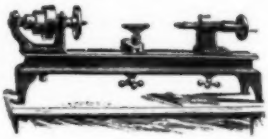
The "Universal," shown above, may be used in awkward corners and confined spaces where other Ratchets are useless. Often pays for itself on a single job. Simplest, strongest, fastest.

Armstrong Bros. Tool Co.

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.

Bench Speed Lathe



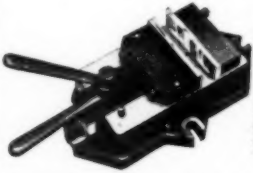
Swing—8"
Length of bed—3'
Distance between centers—20"

Write for leaflet No. H43 and prices

The W. W. Oliver Mfg. Co.

1495 Niagara St., Buffalo, N. Y.

Hartford Milling Vise



Jaw width	5"
Jaw depth	1¼"
Maximum opening	3½"
Weight	40 lbs.

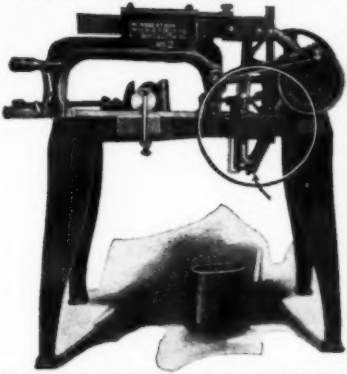
Also made in the swivel-jaw type with hard or soft jaws, maximum opening 2¼".

The "Hartford" has the dimensions to handle most of your usual and unusual requirements, plus a special design that enables it to handle them to your greater profit and satisfaction. This design includes a top eccentric lever handle that gives tremendous binding power, and a lower cam-faced handle that gives speedier opening and return. Because its steel parts are drop forged, and its base of special iron, the "Hartford" stands up under the hardest usage. All fitting parts are hardened ground and scraped in.

Send for descriptive catalog illustrating its usefulness

Hartford Special Machinery Co., 285 Homestead Ave., Hartford, Conn.

No. 2 Economy Power Hack Saw



6x6 Inch Capacity—
Draw Cut—
Swivel Vise—
Automatic Stop—
Hydraulic Oil Lift.

Frame cannot fall and break blades.

CUTS FAST AND ACCURATELY.

ECONOMY SAWS are all thoroughly tested before leaving our factory. Every saw guaranteed.

Built in sizes from 6x6 inch up to 8x18 inch capacity. BELT OR MOTOR DRIVE.

Write today for circular and prices

W. ROBERTSON MACH. & FDRY. CO., 56-58 Rano St., Buffalo, N.Y.

CALL IN Gear Specialists

Skilled Men *plus* An Up-To-Date Plant

And You'll Get Dependable Accuracy at Rock-Bottom Cost—

ALL TYPES:
Spurs, Internals, Bevels, Mitres, Helicals, Spirals, Worms, Worm Gears, Sprockets, Ratchets.

ANY MATERIAL:
Steel, Cast Iron, Brass, Bronze, Aluminum, Fibre, Bakelite, Rawhide.

Made in Small and Medium Sizes, all of One Quality—the very best. We also carry a full line of Stock Gears for immediate delivery. ***Write us***

Massachusetts Gear & Tool Co.

36 Nashua St., Woburn, Mass.

50 Years **50 Years**

Unvarying Collet Service

Collets for A W T and W W Lathes carried in stock.
Collets and Blanks for screw machines. Step Chucks.

For a half-century tool users have found collets and blanks manufactured by the American Watch & Tool Co. to give such service that they have become the standard in this line. Today the Wade Tool Co., successors to the American Watch & Tool Co., are rigidly maintaining the same quality.

Write for the Catalog of Precision Lathes and Tools

The Wade Tool Co.

49-59 River St., **Waltham, Mass.**

The

IMPROVED E-Z SET BORING TOOL

Made in 3 Sizes

Compact, Simple in Construction, Positive Adjustment, TOOL or PRODUCTION work—On Milling Machine, Boring Mill, Drill Press, Lathe or Screw Machine.

Ask for our descriptive circular, with net prices.

IMPROVED E-Z SET BORING TOOLS
MAXWELL BORING TOOLS
M-P THREE TOOL TURRET
MILLING MACHINE SPACING WASHERS

The Maxwell Products Co.

Ottawa & Indiana Ave., **Cleveland, Ohio**

Curtis Universal Joints

of Simple, Rugged Construction

Send for new Catalog No. 47

BOSTON GEARS

BOSTON GEAR WORKS SALES CO.

Norfolk Downs, Mass.

BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO

"The Handiest Racks"

Ideal for Storage
For Time Saving

For Ideal Storage—

They keep pipe, shafting and bar stock neatly piled in the smallest space, and so sorted that they are more easily handled and counted.

For Saving Steps—

They keep material beside lathe or screw machine, ready for instant use. This helps the operator to keep his machine going continually. Production is not slowed down while he goes for stock.

Of course we ship on trial
It's your turn. Where to?

Wm. S. Yohe Supply Co.

503 Mahoning Road, N. E., Canton, Ohio

T.H.L. Front Lever Bench Punch

Malleable iron body; working parts hardened. Steel shaft and plunger. Die cannot lose alignment with punch. All parts interchangeable. Built for hardest, toughest work.

PRICE $45

Extra Punches, 20 cents each; extra dies, 30 cents.

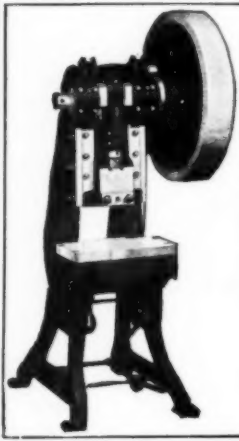
Capacity 13/32" thru 1/4" steel, 11/32" thru 5/16". Punches up to 1/2". Weight, 70 lbs.

A good buy; can ship promptly

T. H. LEWTHWAITE MACHINE CO.

(Est. 1890)

311 E. 47th St., NEW YORK



Performance

is the real basis of Punch Press Value. Rockford Hi-Duty Presses' ***advanced design*** enable them to meet Modern Demands.

They earn their preference by their earning capacity.

Write today for catalog

The Rockford Iron Works

Rockford, Ill.

U. S. Sensitive

14" Floor Drill Motor Driven

A simple, rugged, convenient drill; built by machine tool manufacturers. Drills holes up to ½"—quickly, accurately and economically.

Price with motor, switch and belts -	$115
Or with Counter-shaft for Belt Drive	$70

Steel spindle, ground to size, with ball thrust bearing; vertical adjustment to head; tables for long and short work; three speeds, etc. Write for folder, or better still send in your order.

The U. S. Machine Tool Co.
1952 W. 6th St., Cincinnati, Ohio

Any Pattern Multiple Drilling

With this attachment on your "hole-at-a-time" spindle you can drill two or more holes, utilizing the same speeds and feeds you use for one. The—

U. S. Multiple Spindle Drill Head

has a patented double adjustment which permits drilling in any pattern. It does the work of a multiple spindle drill press at a fraction of the cost.

Send us work or a blueprint for cost estimate

The United States Drill Head Co., 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

Perpetually Sharp Tools

This ideal is most nearly realized with the improved

Thompson Universal Grinder

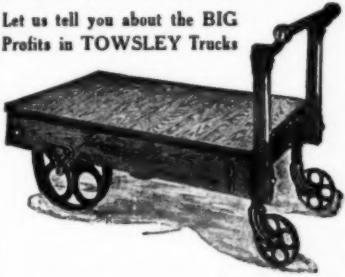
Has no equal for all plain, surface, edge, die, cutter and internal grinding. All Thompsons can now be equipped with the new auxiliary coarse cross feed for surface grinding. Capacity 10"x36".

Let us send you the Illustrated Booklet today!

THE THOMPSON GRINDER CO., - Springfield, Ohio

Repay Cost 5 Times a Year

Let us tell you about the BIG Profits in TOWSLEY Trucks



Efficiency EXPERTS say that

TOWSLEY TRUCKS

repay their cost every two to three months.

Every style for every need.

Write us for details of the BIG truck profits today!

John T. Towsley Mfg. Co., Cincinnati, Ohio, U. S. A.

"Keep Your Production on Wheels!"

This is the message of a foremost efficiency expert.

The CanTon Portable Crane

does this for you! It makes it possible for one man to lift pieces weighing up to 6000 pounds, and to move those pieces to the most inaccessible part of your shop.

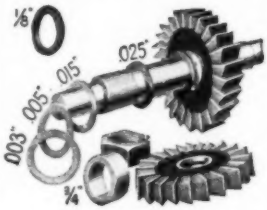
A size for every use
Write for booklet E-8

CANTON FOUNDRY & MACHINE CO., Canton, Ohio

New York Office: 203 East 15th Street, Second Floor

Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters: ⅜, ½, ⅝, ¾, ⅞, 1, 1⅛, 1¼, 1⅜, 1½, 1⅝, 1¾, 1⅞, 2, 2¼, 2½, 3, 3½ and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

Detroit Stamping Company

3443 West Fort St., Detroit, Mich.

Save Time Setting Gang Milling Cutters

Eliminate Thin Washers

Hardened and Ground

PATENTED

"Wear-Ever" Adjustable Spacing Collars permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for ¾" to 2½" arbors, sent on approval They are adjustable in 12 steps of 2/1000 inches

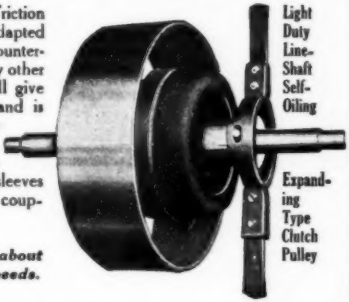
SCULLY-JONES & CO. *TOOL DIVISION*

13th and Robey Streets CHICAGO, ILL.

Edgemont Type B Friction Clutch

The Type B Friction Clutch is well adapted for line-shaft, counter-shaft and many other drives. It will give good service and is simple and easy to operate. Made in pulleys, extended sleeves and cut-off couplings.

Write us now about your clutch needs.



Edgemont Machine Co., Inc., DAYTON OHIO

Long Life in

BRIDGEBILT
Factory Seating

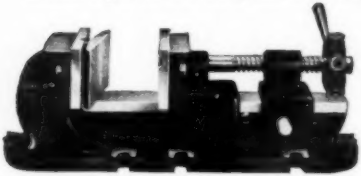
Select the chairs and stools for your factory from this line. They will meet your particular needs and stand up under any wear you give them.

Write for prices and illustrated folder

The Chicago Wire Chair Co.
616 No. LaSalle St., Chicago, Ill.

Gem Drill Press Vise

Holds tapered and irregular shaped pieces firmly



Made in three sizes up to 10½ in.

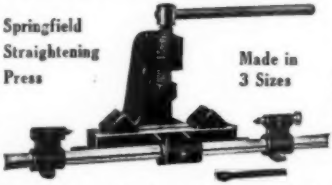
ITS STRENGTH, capacity, adaptability and quickness of setting make it ***the most efficient vise on the market.*** Swivel jaw adjusts automatically to odd shaped pieces. Adapted to an unusual variety of drilling and milling operations. A big time saver Worth more than its costs.

Write for folder, illustrating some of its many uses

J. E. Martin Tool & Die Works, 528 W. State St. Springfield, O.

Accurate — Convenient — Versatile

Springfield Straightening Press



Made in 3 Sizes

The Acme of Convenience in Shop Factory Tool Room or Garage

Whether your straightening requirements arise in factory, shop, tool room or garage, you will find the Springfield the acme of convenience. Sprung tools, any length rough or finished work, cranks, cam shafts, and similar work can be tested and trued in a jiffy on the "Springfield." As it can be placed on or near the bench it saves in floor space, time and extra handling.

Send for circular showing its many uses

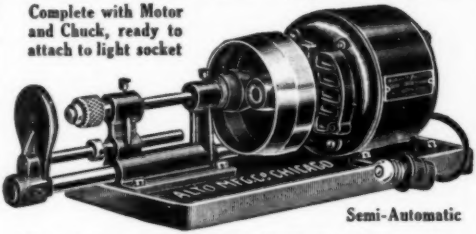
The Springfield Machine Tool Company

633 West Southern Avenue, SPRINGFIELD, OHIO

We also manufacture Engine Lathes and Shapers

No.1 ALTO High Speed Motor Driven Tapping Machine

Complete with Motor and Chuck, ready to attach to light socket



Semi-Automatic

Self-contained, compact, and powerful, this Alto No. 1 Tapper combines a high forward speed with a reverse three times as fast, and no lost motion. It has a capacity of 3/16" in brass and 1/8" in steel. Self-contained, it operates without extra equipment, and needs only to be attached to a light socket.

Let us send you descriptive matter and quote the price

The Alto Mfg. Co., 1647-51 Wolfram St. Chicago, Ill.

Announcing!

A New Size Ettco Tapper

Sensitive as your Finger Tips."

No. 1 Ettco Tapper—capacity 1/4-inch.
No. 2 Ettco Tapper—capacity 3/8-inch.

Users of the No. 1—1/4-inch capacity Ettco High Speed Tapping Attachment will welcome the announcement of this New Size Ettco—the No. 2,—capacity up to 3/8 inch.

Ettco Tappers eliminate tap breakage, whatever the cause. A "green" operator can bang the bottom of a tapped hole using an Ettco and still not break the tap—he has no friction to adjust.

Where Ettco Tappers have been installed tap breakage has been eliminated and production increased 100 to 500%.

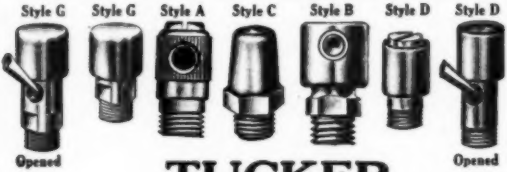
You are interested in better tapping—take an Ettco Tapper for a ten days' trial—after the test, if you can then afford to be without it, send it back—no obligation.

Eastern Tube & Tool Co., Inc., 600 Johnson Ave., BROOKLYN, N. Y.

Tolhurst Chip Wringers reclaim 6 to 15 gallons per load and handle three or four loads per hour.

Write

TOLHURST MACHINE WORKS
TROY, N.Y.



TUCKER

Oil Hole Covers

ALSO—HERCULES
SHEAR AND ROD CUTTERS
AND
SCREW MACHINE PRODUCTS

A Type for Every Service

Send for Revised Catalogue

W. W. & C. F. TUCKER, INC., Hartford, Conn.

FOREIGN AGENTS: Fenwick Freres & Co., Paris, France
Alfred Herbert, Ltd., Yokohama, Japan

Noiseless, Fast Riveting with a GRANT

Speed—One rivet per second.

Uniformity—Each rivet is finished to the exact degree of tightness or looseness you require.

Finish—Heads perfectly formed, unmutilated.

GRANT ROTARY

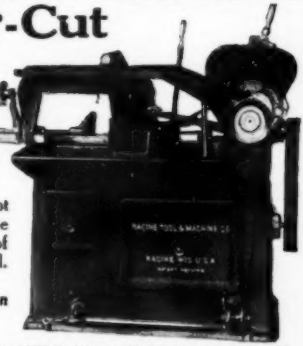
So well adapted to difficult work that no corner is too inaccessible for it to place a rivet. Yet it is so simple in operation that a boy or girl can handle it efficiently.

Send samples of your work for riveting and cost estimate

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.

The New RACINE Shear-Cut

Production Saw for High Speed Metal Cutting



Time per cut does not vary. Cutting time reduced half. Life of saw blades tripled.

Send for bulletins on complete line.

RACINE TOOL & MACHINE CO., 1429 Junction Ave., Racine, Wis.

Winterhoff Portable Production Drills

No. 0 JUNIOR DRILL
10½" Swing, 0 to ⅝" Capacity

Equipped with ¼ h. p. motor, two step cone pulley giving speeds of 1100 and 2300 r. p. m., horizontal drive gives full power to the 1¼" endless belt furnished with machine. Driven cone has bearing support at each end; all parts accurately machined and interchangeable. ***Positively the greatest value*** ever offered in a machine of this kind.

Drills, Grinders, Disc Grinders, Saws, Sanders. All motor driven.

Send for circulars describing these machines or see your Dealer.

$55, F. O. B. Elkhart

Winterhoff Tool & Machine Co.

109 South Elkhart Ave., Elkhart, Ind., U. S. A.

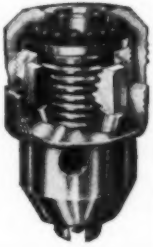
Ettco Keyless Ball Bearing Drill Chucks

Tremendous Gripping Power

Seven good reasons for using the

ETTCO

1. Lighter in weight.
2. All hardened parts.
3. Keyless.
4. Hand operated.
5. Ball bearing.
6. Continuous grip.
7. Simple construction.



Eastern Tube & Tool Company, Inc.

600 Johnson Avenue, BROOKLYN, N. Y.

Quick Set-Up *plus* SAFETY

Half the usual time on a set-up like this can be used for production, with safety to drill and operator. It is always on the job.

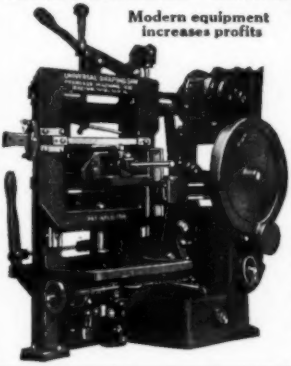
A safety tool that saves its cost in labor every six months.

Write for free trial offer

MODERN MACHINE TOOL COMPANY
JACKSON, MICHIGAN

—PEERLESS—
UNIVERSAL SHAPING SAW

Modern equipment increases profits



Different Principles
Greater Efficiency

Give The Most Of—
Speed
Accuracy
Blade Economy

SIZES:
6"x6"--9"x9"--13"x13"

PEERLESS
HIGH SPEED HACK-SAWS
6"x6" 9"x9" 13"x16"
Sturdy--Efficient--Reliable

Peerless Machine Co.
1218 Sixteenth St.
Racine, Wisconsin
Write for Details

"GUSHER" Pumps

Of Highest Quality—
Give Top-Notch Service

In all things, but proverbially in mechanism, the supreme test of excellence is simplicity—The "Gushers" are the simplest pumps made.

They have capacity plus—12 to 75 gallons per minute. Made also to set outside reservoir and connect by piping where that is desirable. Catalog and prices?

The Ruthman Mchy. Co.
528-534 E. Front St.
CINCINNATI, OHIO

The "Ideal" Pump Deflates Costs

The single cylinder "Ideal" Electric Automatic Air Compressor and Exhaust Pump delivers two cubic feet of free air at 300 R. P. M. Quarter H. P. motor required for 200 lbs. pressure.

Price, pump only, $22.50

← SINGLE CYLINDER

TWIN CYLINDER →

The twin cylinder pump delivers four cubic feet of free air at 300 R. P. M. Half H. P. motor required for 200 lbs. pressure.

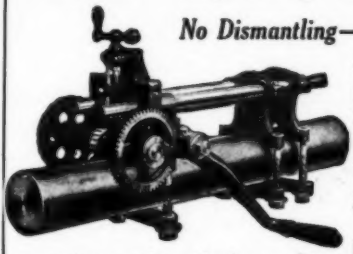
Price, pump only, $32.50

Equip your laboratory or factory with one—"Ideal" for use in connection with spray gun, glass blowing, etc.

PETRICK BROTHERS
2226 Belmont Ave., Chicago, Ill.

"BURR" Keyseating Costs Less

No Dismantling—No Fuss



The BURR Portable Keyseater

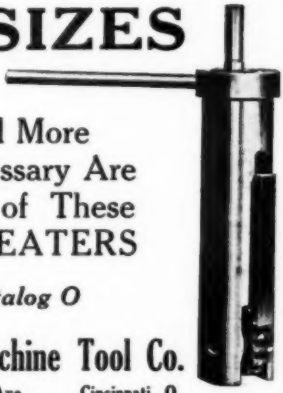
Cuts keyways up to 12" long, in shafts up to 5" diam., anywhere, in any position.

Have one on hand for your next emergency—the cost is often saved on a single job. The seven sizes are *quick* and *accurate*. Hand or power driven. Over 10,000 in use. *Order yours today and save money!*

JOHN T. BURR & SON

422 Kent Ave., Brooklyn, N. Y.

20 SIZES



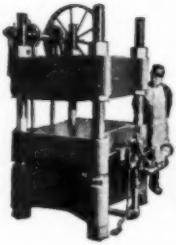
And More
If Necessary Are
Made of These
KEYSEATERS

Catalog O

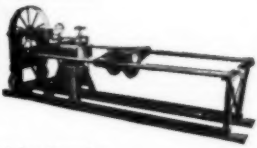
National Machine Tool Co.

2268 Spring Grove Ave., Cincinnati, O.

Lourie Hydraulic Presses

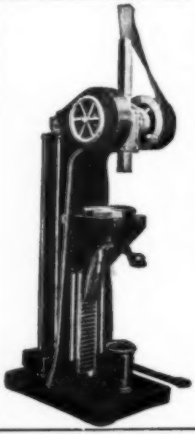


A complete line of Horizontal and Vertical Presses built for any tons capacity or specifications. Either hand or power operated.



Send for Catalog

LOURIE HYDRAULIC CO.
SPRINGFIELD, ILL.



Atlas Arbor Presses

For All Forcing Operations

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

Write for our Bulletin—showing 30 different sizes

Atlas Press Co.
Department B,
Kalamazoo, Michigan

FEDERAL
DIAL COMPARATOR
—CAPACITY 6"—

With Indicator Graduated .0005"

$45.00

With Indicator Graduated .0001"

$66.50

SEND FOR COMPLETE CATALOG

Federal Products Corporation
Elbow & Chestnut Sts., Providence, R. I.

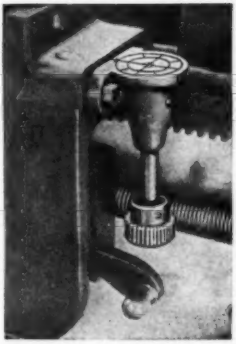
E-Z THREAD DIAL

Thread cutting on engine lathes made easy, and at lower cost.

Can be easily attached to all size lathes.

A reliable device that will aid the operator in the work of cutting threads.

Threads can be cut close up to shoulders as easily as the ordinary thread.



Eliminates stopping or reversing the lathe.

Saves cost of backing belt.

Saves power to drive same.

Fast growing in popularity.

A large corporation ordered nine at one time. Another five.

Sent on thirty days' trial.

Send for folder today.

JAMES M. COLVEN, 20 Wolffe Street, Yonkers, N. Y.

MARKING DEVICES

THE SCHWERDTLE STAMP CO.

BRIDGEPORT, CONN.

To Users Of

Hollow Bored Forgings and Steel Shafts

USERS of Piston Rods, Clutch Shafts, Lathe Spindles, Rams, Hydraulic Cylinders, etc., will find that our products are of the highest quality; that our prices are right and that our service is always dependable. Our big business in re-orders tells the story. ***Send us blueprints for quotations.***

American Hollow Boring Co.

Erie, Penna.

Analysis of Circulation of

HITCHCOCK'S MACHINE TOOL BLUE BOOK

By Dun and Bradstreet Ratings

	Number Concerns
Exceeding $1,000,000	1,483
$500,000 to $1,000,000	916
$300,000 to $ 500,000	948
$200,000 to $ 300,000	842
$125,000 to $ 200,000	1,305
$ 75,000 to $ 125,000	1,455
$ 50,000 to $ 75,000	1,162
$ 20,000 to $ 50,000	2,847
$ 10,000 to $ 20,000	1,879
$ 5,000 to $ 10,000	1,672
TOTAL, Private Concerns Rated over $5,000	14,509
Steam and Street Railway Mechanical and Purchasing Officials, Government and Municipal Plants, Technical Schools, Foreign Dealers in American Machinery, Etc.	3,470
TOTAL to Buyers of Known Responsibility	17,979
*Concerns quoted in Dun or Bradstreet, but without Capital Rating	2,802
Concerns not yet in either Dun or Bradstreet, but in current Telephone Directories	1,799
Concerns rated below $5,000	2,677
TOTAL CIRCULATION	**25,257**

*This group includes a considerable number of large concerns, and many small concerns of high credit, whose capital rating is not given by either of the commercial agencies.

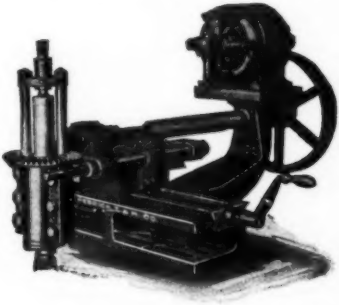
A job can be placed so it overhangs the jaws on this mandrel, which permits the facing down of the side without the turning tool damaging the mandrel. You cannot do this on a solid mandrel. *Write us for further information and prices.*

W. H. Nicholson & Co., 117 Oregon St., Wilkes-Barre, Pa.

Without a **Pedrick**

Portable Milling Machine

You Often Pay Its Price
In Delay On One Job



To appreciate its value just add the savings you could effect in a year by taking this handy, ever-ready tool to the job instead of bringing the job to the tool, then subtract the price. Result—net earning power.

You need this Pedrick Miller to do those big jobs that your standard machines cannot handle.

Catalogue explains all its various operations—a comprehensive book of reference and key to manifold savings. Your copy is waiting—shall we send it now?

Pedrick Tool & Machine Co.

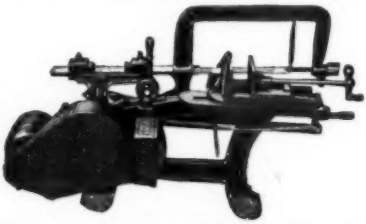
Headquarters for Portable Machine Tools
Boring Bars, Crank Pin Turners, Pipe Benders, etc.

3644 N. Lawrence St., Philadelphia, Pa.

A GENERAL WORK

Motor Driven Hack Saw

Either Stationary or Portable



Marvel Draw-Cut Hack Saw No. 2

CAPACITY { **6"x6" on long stroke**
8"x8" on short stroke

Here is a saw that is proving very popular—a motor-driven, substantial, smooth-running, general-purpose Hack Saw of good capacity, that is sold **at a low price.**

It is furnished either with motor for a power circuit as a stationary machine, or with motor for an electric light circuit so it may be moved anywhere in the plant, the cord attached to the nearest lamp socket, and it's ready for business.

Motor is connected to driving crankshaft by silent chain, sprockets and intermediate cut gears enclosed in cast iron housing and guard and run in oil.

We can also furnish the No. 1 Motor Driven Hack Saw, portable, for light circuit, capacity 4"x4". We make other Hack Saws, one of them entirely automatic, and the popular Marvel Metal Band Saw, all furnished either belt or motor drive; also Marvel Punches, Shears and Rod Cutters.

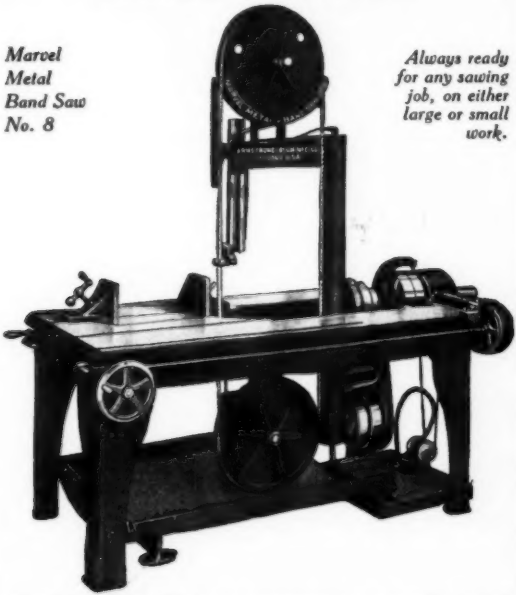
Tell us your requirements, and let us send you description and price of what you need.

ARMSTRONG-BLUM MFG. CO.,

For All Kinds of Metal Sawing
LARGE or SMALL

Marvel Metal Band Saw No. 8

Always ready for any sawing job, on either large or small work.

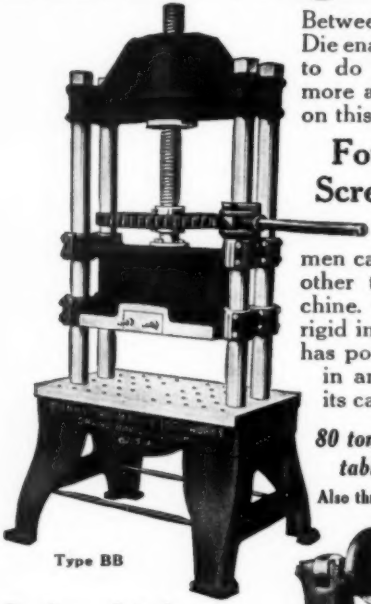


UNIVERSAL in its adaptation to every variety of metal sawing. It saws bars, beams, channels, tubes, etc., rapidly and accurately, and does the finest tool room work. Saws at an angle either way without swinging the bar around the shop. Has big capacity up to 18 in. Notice the large bed with lots of room for material and tools. This saw fills every requirement.

Write for special circular and list of users

341 North Francisco Ave., CHICAGO, ILL., U.S.A.

Perfect Alignment



Between Punch and Die enables one man to do speedier and more accurate work on this

Four Post Screw Press

than two men can do on any other type of machine. Sensitive and rigid in operation, it has power to shear in any die within its capacity.

80 tons pressure—table 20"x36"

Also three smaller sizes

Type BB

Surface Grinder

Silent efficiency is the action of this powerful and rigid surface grinder—equipped with graduated feeds and all the latest attachments.

Price and details on inquiry

JARECKI MACHINE AND TOOL CO.

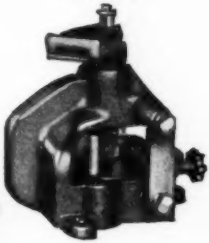
Department A

GRAND RAPIDS, MICHIGAN

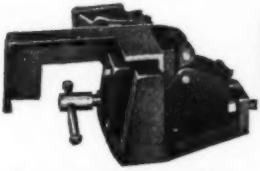
Mitre Notcher Angle Iron Notcher and Bender

BALL BEARING SPINDLE

No. 50



No. 51



Capacity Will Shear Mitre in 2 in. x 2 in. x ¼ in. Angle Iron or Smaller

Weight of Mitre Notcher.....64 lbs.
Weight of Mitre Notcher Bender.....42 lbs.

Angle Iron Shear No. 4

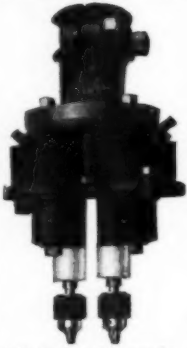
Capacity 2x2x¼ Angle Iron Weight 41 lbs.

Inserted Tool Steel Blades. Our patented eccentric gear gives uniform leverage over entire surface of Shearing Blades. It is so designed that it will shear without any clamping and does nice square work. All wearing parts hardened.

Write for Prices

WHITNEY METAL TOOL COMPANY
95 Forbes St.
ROCKFORD, ILL.

Buhr Multiple Drillers



All Spur Geared

With Fixed or Adjustable Centers

Make a multiple drill out of any ordinary drill press.

The adjustable head is furnished with any number of spindles practicable, and will do 80% of the work now done by fixed center heads.

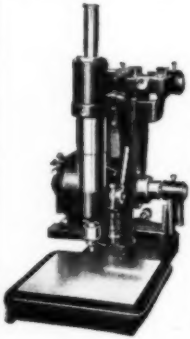
Radial ball bearings and spur gears throughout. Heads self-contained and dust-proof.

Special arms for close centers.

Send us a lay-out of your multiple drilling for cost estimate

Buhr Machine Tool Co.
839 Green St., Ann Arbor, Mich.

Sigourney Sensitive Drills



The Quality Tools That Reduce Costs

SIGOURNEY DRILLS are designed for those who realize that the best tools pay the largest returns on the investment.

Made with one to four spindles, plain or ball bearing, belt or motor drive. *All parts interchangeable.*

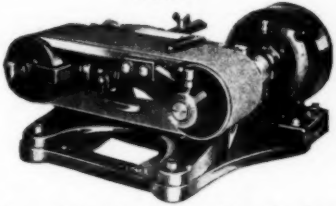
The illustration shows our motor-driven, all-ball-bearing No. 0 High Speed-Bench Drill which may be operated up to **10,000 R.P.M.**

Full data and prices sent you on request.

Sigourney Tool Co.
Hartford, Conn., U. S. A.

Abolish Expensive Hand Finishing

with a



Simplex-M Abrasive Band Grinder

This grinder accelerates production and cuts costs. Hand emerying or filing operations are antiquated in comparison. The use of this new modern machine assures straight grain finishes with sharp edges. *Details of this and other styles and sizes on request.*

WALLS SALES CORP., 96 Warren Street NEW YORK

"D & W" Flat & Rotary Magnetic Chucks

Efficiency that Compensates for First Cost

Our line reaches new heights in practical tool economies. Specialized in their purpose, they hold a great variety of steel and iron pieces for all milling, planing, shaping and grinding operations. We are specialists in the use of flat and rotary magnetic chucks; *let us investigate and report on any problems you may find in connection with their use.*

J. & H. Electric Co., 159 Clifford St., Providence, R. I.

Let Your Losses Stop

With the Broken Tap

Don't halt production and pay skilled mechanics to dig it out, often injuring the work.

A Handy Walton Tap Extractor

Will forestall these unnecessary losses. Insert its flutes into the broken tap, twist the end—an apprentice can do it in a jiffy—and the tap backs out without injury to the threads.

Made in three and four-flute styles.

Let us send it to you for a sixty-day trial

The Walton Company

Hartford, Conn.

Vanderbeek Universal Joints

—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

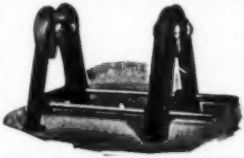
Write today for our Descriptive Catalog.

American Tool Works, Inc.

Hartford, Conn., U. S. A.

Anderson Improved Balancing Ways

Ever-Ready—Sensitive—Reliable



They need no adjustment, no centering, and no special leveling. The rotating discs are made of chilled iron, run in specially designed ball bearings and are extremely sensitive.

Each of the six sizes has no equal for balancing anything that revolves with its dimensions.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards	20"	30"	30"	66"	88"	20'
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight	45	90	150	350	650	
Code	Bend	Bid	Bis	Bib	Ben	

Any of above can be furnished with longer shafts

Anderson Bros. Mfg. Co.

1915 Kishwaukee St., Rockford, Ill.

For Sure Balance--

an absolutely level and solid "Way" is necessary

Bowsher "Balancing Ways"

are brought to an absolute *level* in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground *true*, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

Three sizes for floor—one for bench use

Send for Catalog "F"

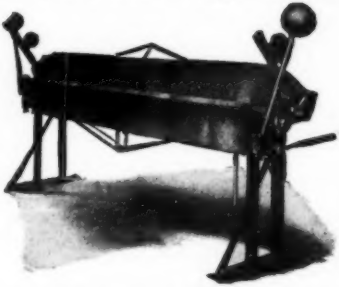
The N. P. Bowsher Co., South Bend, Ind.

Chicago Steel Bending Brakes

Hand and power, for bending from light sheets up to ¾ in. plate.

More than 25,000 in use.

Write for illustrated catalog



DREIS & KRUMP MFG. CO.
7422 Loomis Blvd., Chicago, Ill.

USE the CHICAGO No. 2

POWER PIPE THREADING MACHINE

For
Production and Precision Threading

PORTABLE

Capacity:
¼" to 2" Pipe
½" to 1½" Bolt

Featuring:
1. Quick Die Change
2. Automatic Die Hsed
3. Three Speeds
4. Perfected Oil Control

Send for Catalog

Chicago Pipethread Machine Co.

Office and Factory: 1623 Racine St., Racine, Wis.

Let the Blue Book be your Messenger

There are three essentials to good advertising—

1. **The article advertised must have real merit.**
2. **The copy describing it should be clear and concise.**
3. **The advertising message should be delivered to the maximum number of possible buyers.**

Hitchcock's Machine Tool Blue Book will deliver your message to more responsible users and buyers of machine tools, including automotive and other large manufacturing plants, railway mechanical officials, etc., than any other publication on earth. If your machine is right and your copy is right, then the use of the Blue Book as your advertising medium completes a combination that is unbeatable.

The rates are most reasonable for the service; write for them.

HITCHCOCK PUBLISHING CO.

508 SOUTH DEARBORN STREET, CHICAGO, ILL.

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Petrick Bros., 2226 Belmont Ave., Chicago

Arbors, Solid
Nicholson & Co., W. H., Wilkes-Barre, Pa.

Auto-Gages For Dies
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Automatics
New Britain Machine Co., New Britain, Conn.

Balancing Ways
Anderson Bros. Mfg. Co., Rockford, Ill.
Bowsher Co., N. F., South Bend, Ind.

Balls, Bearing and Burnishing
Abbott Ball Co., Hartford, Conn.

Band Saw Machines, for Metal
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.

Barrels, Tumbling
Abbott Ball Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 18th, Chicago

Bench Legs, Steel
New Britain Mchs. Co., New Britain, Conn.
Standard Pressed Steel Co., Jenkintown, Pa.

Bending Machines, Hand and Power
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mchs. Co., Y H.417E. 81st., N.Y.
Lourie Hydraulic Co., Springfield, Ill.
Pedrick Tool & Machine Co., Philadelphia

Bending Rolls
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Hendley & Whittemore Co., Beloit, Wis.

Belt and Nut Machinery
Economy Engineering Co., Willoughby, O.
Foote-Burt Co., Cleveland, O.

Boring Bars
Pedrick Tool & Machine Co., Philadelphia

Boring Bars, Cylinder
Pedrick Tool & Machine Co., Philadelphia

Boring, Drilling & Milling Machines
Barnes Co., W. F. & John, Rockford, Ill.
Landis Tool Co., Waynesboro, Pa.
Sommer & Adams Co., Cleveland, O.

Boring Machines, Horizontal
Avey Drilling Machine Co., Cincinnati
Morris Machine Tool Co., Cincinnati, O.
Pedrick Tool & Machine Co., Philadelphia

Boring Tools
Maxwell Products Co., Cleveland, O.
Ribbe & Grey, La Porte, Ind.

Boring and Turning Machines, Vertical
Cincinnati Planer Co., Cincinnati, Ohio

Brakes, Steel, Hand and Power
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago

Brands, Burning
Schwerdtle Stamp Co., Bridgeport, Conn.

Bulldozers, Hydraulic
Lourie Hydraulic Co., Springfield, Ill.

Burnishing Equipment, Ball
Abbott Ball Co., Elmwood, Conn.

Chucking Machines
New Britain Mchs. Co., New Britain, Conn.
Springfield Machine Tool Co., Springfield, O.

Chucks, Collet
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago

Chucks, Drill
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Hartford Special Mchy. Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago

Chucks, Drill and Tap
Scully-Jones & Co., 2012 W. 13th, Chicago

Chucks, Keyway Cutting
Scully-Jones & Co., Ry. Exch. Bldg., Chicago

Chucks, Magnetic
J. & H. Electric Co., Providence, R. I.

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Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Clutches, Friction
Edgemont Machine Co., Dayton, O.

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Burke Machine Tool Co., Conneaut, Ohio

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Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
Wade Tool Co., Waltham, Mass.

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Burke Machine Tool Co., Conneaut, O.

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Glenzer Co., J. C., Detroit, Mich.

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Nicholson Co., W. H., Wilkes-Barre, Pa.

Couplings, Shaft
Nicholson Co., W. H., Wilkes-Barre, Pa.

Cranes, Portable
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Canton Foundry & Mchs. Co. Canton, Ohio

Crank Pin Turning Machine
Pedrick Tool & Machine Co., Philadelphia

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Davis Keyseater Co., Rochester, N. Y.
Scully-Jones & Co., 2012 W. 13th, Chicago

Cutters, Milling
Genesee Mfg. Co., Rochester, N. Y.

Cylinder Boring Machines, Portable
Pedrick Tool & Machine Co., Philadelphia

Demagnetizers
J. & H. Electric Co., Providence, R. I.

Dial Indicators
Federal Products Corp'n, Providence, R. I.

Classified Finding Index

Die Making Machines
Oliver Instrument Co., Adrian, Mich.

Dies
Sloan & Chace, Inc., Newark, N. J.

Die Sets
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Drill Racks
Peerless Machine Co., Racine, Wis.

Drill Tables and Vise
Modern Machine Tool Co., Jackson, Mich.

Drilling Machine Heads, Multiple
Buhr Machine Tool Co., Ann Arbor, Mich.
Gaterman Mfg. Co. Manitowoc, Wis.
United States Drill Head Co., Cincinnati

Drilling Machines, Bench
Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Burke Machine Tool Co., Conneaut, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Edlund Machinery Co., Inc., Cortland, N. Y.
Gaterman Mfg. Co., Manitowoc, Wis.
High Speed Hammer Co., Rochester, N. Y.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Sloan & Chace, Inc., Newark, N. J.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.
Winterhoff Tool & Machine Co., Elkhart, Ind.

Drilling Machines, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty Street, New York

Drilling Machines, Horizontal
Barnes Co., W. F. & John, Rockford, Ill.
Edlund Machinery Co., Inc., Cortland, N. Y.
Gaterman Mfg. Co., Manitowoc, Wis.
Morris Machine Tool Co., Cincinnati, O.

Drilling Machines, Multiple Spindle
Avey Drilling Machine Co., Cincinnati
Edlund Machinery Co., Inc., Cortland, N. Y.
Foote-Burt Co., Cleveland, O.
Gaterman Mfg. Co., Manitowoc, Wis.
Kent Machine Co., Kent, Ohio.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Portable Electric
Blax Flexible Shaft Co., 136 Liberty St., New York
Cincinnati Electrical Tool Co., Cincinnati, O.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Mall Tool Co., 8389 S. Chicago Ave., Chicago
Standard Electrical Tool Co., Cincinnati, O.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 5001 N. Lincoln St., Chigo
Winterhoff Tool & Machine Co., Elkhart, Ind.

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Drilling Machines, Radial
American Tool Works Co., Cincinnati, O.
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Morris Machine Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Sensitive
Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Burke Machine Tool Co., Conneaut, Ohio
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Edlund Machinery Co., Inc., Cortland, N. Y.
Foote-Burt Co., Cleveland, O.
Gaterman Mfg. Co., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
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Sigourney Tool Co., Hartford, Conn.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.
U. S. Machine Tool Co., Cincinnati, O.

Drilling Machines, Vertical
Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Edlund Machinery Co., Inc., Cortland, N. Y.
Foote-Burt Co., Cleveland, O.
Gaterman Mfg. Co., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Standard Electrical Tool Co., Cincinnati, O.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.

Dust Handling Equipment
Knickerbocker Co., Jackson, Mich.

Emery Wheel Dressers and Cutters
Ross Manufacturing Co., Cleveland, O.
Taylor & Fenn Co., Hartford, Conn.
Western Tool & Mfg. Co., Springfield, O.

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Schwerdtle Stamp Co., Bridgeport, Conn.

Etching Machines, Electric
Brewster Co., Wm., Inc., 50 Church St., New York
Martindale Electric Co., Cleveland, O.

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New Britain Machine Co., New Britain, Conn.

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Wardwell Mfg. Co., Cleveland, O.

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Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Forgings, Hollow Bored
American Hollow Boring Co., Erie, Pa.

Furniture, Machine Shop
New Britain Machine Co., New Britain, Conn.
Standard Pressed Steel Co., Jenkintown, Pa.
Western Tool & Mfg. Co., Springfield, O.

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Federal Products Corp'n, Providence, R. I.

Gauges, Piston and Piston Ring
Federal Products Corp'n, Providence, R. I.

Gauges, Taper
Hartford Special Mchy. Co., Hartford, Conn.

Gauges, Thread
Federal Products Corp'n, Providence, R. I.

Gear Cutting Machines
Sloan & Chace, Inc., Newark, N. J.

Gears
Boston Gear Works Sales Company, Norfolk Downs, Mass.
Massachusetts Gear & T. Co., Woburn, Mass.

Grinding Machines, Belt
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Peerless Surfacing Machine Co., Troy, N. Y.
Walls Sales Corp., 96 Warren St., New York

Grinding Machines, Bench
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Standard Electrical Tool Co., Cincinnati, O.

Classified Finding Index

Grinding Machines, Cutter, Reamer and Tool
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Cylindrical
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Die
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Disc
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Gardner Machine Co., Beloit, Wis.
Porter Cable Machine Co., Syracuse, N. Y.

Grinding Machines, Drill
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., Ottawa, Ill.

Grinding Machines, Electric
Independent Pneumatic Tool Co., 666 W. Jackson Blvd., Chicago
North Side Tool Co., Dayton, Ohio

Grinding Machines, Face
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty street, New York
Keller Mch. Eng. Corp., 58A Washington St., Brooklyn, N. Y.

Grinding Machines, Internal
Landis Tool Co., Waynesboro, Pa.
Mall Tool Co., 8389 S. Chicago Ave., Chgo.
Taylor & Fenn Co., Hartford, Conn.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Portable Electric
Blax Flexible Shaft Co., 136 Liberty St., New York
Cincinnati Electrical Tool Co., Cincinnati, O.
Mall Tool Co., 8389 S. Chicago Ave., Chgo.
Porter-Cable Machine Co., Syracuse, N. Y.
Standard Electrical Tool Co., Cincinnati, O.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N.A., 5001 N. Lincoln St., Chicago

Grinding Machines, Snagging
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mche. & T. Co., Grand Rapids, Mich.

Grinding Machines, Surface
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., Ottawa, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Tap
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Grinding Machines, Tool
Kent Machine Co., Kent, Ohio.
Standard Electrical Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Universal
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Hack Saw Blades
Peerless Machine Co., Racine, Wis.

Hack Saw Machines
Armstrong-Blum Mfg. Co., 34' N. Francisco Av., Chicago
Peerless Machine Co., Racine, Wis.
Racine Tool & Machine Co., Racine, Wis.
Robertson Machine & Foundry Co., Buffalo, N. Y.

Hammers, Air
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Hammers, Riveting
High Speed Hammer Co., Rochester, N. Y.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

High Speed Steel, Drills, Cutters
Bernstein, Geo. M., 649 W. Washington Blvd., Chicago

Hoists, Electric
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Hoists, Portable
Canton Foundry & Machine Co., Canton, Ohio

Hydraulic Machinery
Lourie Hydraulic Co., Springfield, Ill.

Jigs and Fixtures
Hartford Special Mchy. Co., Hartford, Conn.
Sloan & Chace, Inc., Newark, N. J.

Keyseating Machines
Burr & Son, John T., Brooklyn, N. Y.
Chattanooga Mchy. Co., Chattanooga, Tenn.
Davis Keyseater Co., Rochester, N. Y.
National Machine Tool Co., Cincinnati

Lathe Accessories and Attachments
Cisco Machine Tool Co., Cincinnati, O.
Maxwell Products Co., Cleveland, O.

Lathe Turrets
Maxwell Products Co., Cleveland, O.

Lathes, Bench
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
Monarch Machine Tool Co., Sidney, O.
Oliver Mfg. Co., W. W., Buffalo, N. Y.

Lathes, Engine
American Tool Works Co., Cincinnati, O.
Barnes Co., W. F. & John, Rockford, Ill.
Carroll Mche. Tool Co., A. V., Cincinnati, O.
Carroll & Jamieson Mch. Tool Co., Batavia, O.
Cisco Machine Tool Co., Cincinnati, O.
Hamilton Tool Co., Hamilton, O.
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Monarch Machine Tool Co., Sidney, O.
Morris Machine Tool Co., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Springfield Machine Tool Co., Springfield, O.

Lathes, Extension Bed Gap
Rahn-Larmon Co., Cincinnati, O.

Lathes, Foot Power
Barnes Co., W. F. & John, Rockford, Ill.

Lathes, Gap
Carroll Mche. Tool Co., A. V., Cincinnati, O.

Lathes, Manufacturing
Sloan & Chace, Inc., Newark, N. J.

Lathes, Precision
Sloan & Chace, Inc., Newark, N. J.
Wade Tool Co., Waltham, Mass.

Lathes, Short Bed
Monarch Machine Tool Co., Sidney, O.
Porter-Cable Machine Co., Syracuse, N. Y.

Classified Finding Index

Lathes, Turret
Monarch Machine Tool Co., Sidney, O.

Mandrels, Expanding
Nicholson & Co., W. H., Wilkes-Barre, Pa.
Western Tool & Mfg. Co., Springfield, O.

Mandrels, Solid
Nicholson & Co., W. H., Wilkes-Barre, Pa.

Milling Attachments
Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Taylor & Fenn Co., Hartford, Conn.

Milling Machine Spacing Washers
Maxwell Products Co., Cleveland, O.

Milling Machines, Bench
Burke Machine Tool Co., Conneaut, Ohio
Sloan & Chace, Inc., Newark, N. J.

Milling Machines, Hand
Burke Machine Tool Co., Conneaut, Ohio
U. S. Machine Tool Co., Cincinnati, O.

Milling Machines, Manufacturing
Kearney & Trecker Corp., Milwaukee, Wis.

Milling Machines, Plain
Burke Machine Tool Co., Conneaut, Ohio
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

Milling Machines, Portable
Pedrick Tool & Machine Co., Philadelphia

Milling Machines, Spline
Taylor & Fenn Co., Hartford, Conn.

Milling Machines, Universal
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

Milling Machines, Vertical
Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Mills, Adjustable Hollow
Genesee Mfg. Co., Rochester, N. Y.

Motors, Electric
Fairbanks, Morse & Co., Chicago
Reliance Electric & Eng. Co., Cleveland

Name Plates, Etched and Stamped
Schwerdtle Stamp Co., Bridgeport, Conn.

Nut Setters, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty Street, New York

Oil Cups
Tucker, W. W. & C.F., Inc., Hartford, Conn.

Oil Extractors
Telburst Machine Works, Troy, N. Y.

Oil Hole Covers
Tucker, W. W. & C.F., Inc., Hartford, Conn.

Pattern Shop Machinery
Towsley Mfg. Co., John T., Cincinnati

Pinion Cutting Machines
Sloan & Chace, Inc., Newark, N. J.

Pins, Leader And Dowel
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Pipe Bending Machines
Pedrick Tool & Machine Co., Philadelphia

Pipe Cutting and Threading Machines
Chicago Pipethread Co., Racine, Wis.

Planing Machines
Cincinnati Planer Co., Cincinnati, O.

Planers, Valve Seat, Portable
Pedrick Tool & Machine Co., Philadelphia

Pointers, Semi-Automatic
Kent Machine Co., Kent, Ohio.

Polishing and Buffing Machines
Cincinnati Electrical Tool Co., Cincinnati, O.
Cisco Machine Tool Co., Cincinnati, O.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Mall Tool Co., 8389 S. Chicago Ave., Chicago
New Britain Machine Co., New Britain, Conn.
North Side Tool Co., Dayton, Ohio
Standard Electrical Tool Co., Cincinnati, O.

Presses, Arbor
Atlas Press Co., Kalamazoo, Mich.
Barnes Co., W. F. & John, Rockford, Ill.
Lourie Hydraulic Co., Springfield, Ill.
Nicholson & Co., W. H., Wilkes-Barre, Pa.

Presses, Broaching
Lourie Hydraulic Co., Springfield, Ill.

Presses, Drawing
Lourie Hydraulic Co., Springfield, Ill.

Presses, Flanging
Lourie Hydraulic Co., Springfield, Ill.

Presses, Foot
Rockford Iron Works, Rockford, Ill.
Taylor & Fenn Co., Hartford, Conn.

Presses, Forcing
Lourie Hydraulic Co., Springfield, Ill.

Presses, Forming
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Lourie Hydraulic Co., Springfield, Ill.

Presses, Power
Hendley & Whittemore Co., Beloit, Wis.
Lourie Hydraulic Co., Springfield, Ill.
Rockford Iron Works, Rockford, Ill.

Presses, Punch
Lawthwaite Mchs. Co., T.H., 417 E. 31st., N. Y.
Rockford Iron Works, Rockford, Ill.

Presses, Screw
Barnes Co., W. F. & John, Rockford, Ill.
Jarecki Mchs. & T. Co., Grand Rapids, Mich.
Towsley Mfg. Co., John T., Cincinnati

Presses, Wheel
Lourie Hydraulic Co., Springfield, Ill.

Pulley Machinery
Avey Drilling Machine Co., Cincinnati

Classified Finding Index

Pumps, Coolant
Fulflo Specialties Co., Blanchester, O.

Pumps, Exhaust
Petrick Bros., 2226 Belmont Ave., Chicago

Pumps, Hydraulic
Lourie Hydraulic Co., Springfield, Ill.

Pumps, Lubricant
Ruthman Machinery Co., Cincinnati, O.

Punch Press Feeds
Rockford Iron Works, Rockford, Ill.

Punch, Shear and Bender, Hand
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago

Punches, Hand
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mche. Co., T. H., 417 E. 31st St., New York
Whitney Metal Tool Co., Rockford, Ill.

Punches, Power
Hendley & Whittemore Co., Beloit, Wis.

Punches and Dies
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mche. Co., T. H., 417 E. 31st., N. Y.
Rockford Iron Works, Rockford, Ill.

Racks, Bar Stock
New Britain Machine Co., New Britain, Conn.
Yohe Supply Co., Wm. S., Canton, O.

Reamers, Adjustable
Schellenbach-Hunt Tool Co., Cincinnati, O.

Reamer Holders
Nicholson & Co., W. H., Wilkesbarre, Pa.

Reels, Extension
Cincinnati Specialty Mfg. Co., Cincinnati, O.

Riveting Machines
Grant Mfg. & Mche. Co., Bridgeport, Conn.
High Speed Hammer Co., Rochester, N. Y.

Rod Cutters
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mche. Co., T. H., 417 E. 31st., N. Y.
Tucker, W. W. & C. F., Inc., Hartford, Conn.

Saw Sharpening Machines
Wardwell Mfg. Co., Cleveland, O.

Scraping Machines, Hand & Pneumatic
Anderson Brothers Mfg. Co., Rockford, Ill.

Screw Drivers, Electric
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Screw Drivers, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty Street, New York

Screw Driving Machines, Automatic
Reynolds Machine Co., Massillon, Ohio

Screw Machines, Automatic
New Britain Mche. Co., New Britain, Conn.

Screw Slotters
Kent Machine Co., Kent, Ohio.

Shafts, Flexible
Blax Flexible Shaft Co., 136 Liberty St., N. Y.
Keller Mech. Eng. Corp., 58A Washington St., Brooklyn, N. Y.
Mall Tool Co., 8389 S. Chicago Ave., Chgo.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 5001 N. Lincoln St., Chgo.

Shafts, Steel
American Hollow Boring Co., Erie, Pa.

Shaping Machines
American Tool Works Co., Cincinnati, O.
Osborne & Sexton Machy. Co., Columbus, O.
Rhodes Mfg. Co., Hartford, Conn.
Smith & Mills Co., Cincinnati
Springfield Machine Tool Co., Springfield, O.

Shears, Hand
Armstrong-Blum Mfg. Co. 341 N. Francisco Av., Chicago
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Machine Co., T. H., 417 E. 31st St., New York
Oliver Mfg. Co., W. W., Buffalo, N. Y.
Tucker, W. W. & C. F., Inc., Hartford, Conn.
Whitney Metal Tool Co., Rockford, Ill.

Shears, Power
Hendley & Whittemore Co., Beloit, Wis.

Slotting Machines
Rhodes Mfg. Co., Hartford, Conn.

Spacing Washers
Detroit Stamping Co., Detroit, Mich.

Special Tools and Machinery
Sloan & Chace, Inc., Newark, N. J.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Wade Tool Co., Waltham, Mass.

Sprockets
Massachusetts Gear & T. Co., Woburn, Mass.

Stamps, Steel and Rubber
Schwerdtle Stamp Co., Bridgeport, Conn.

Stencils, Brass and Oil Board
Schwerdtle Stamp Co., Bridgeport, Conn.

Stools and Chairs, Factory
Chicago Wire Chair Co., 619 N. La Salle St., Chicago

Straightening Machines
Springfield Machine Tool Co., Springfield, O.
Townley Mfg. Co., John T., Cincinnati
Whitney Metal Tool Co., Rockford, Ill.

Tap Extractors
Walton Co., Hartford, Conn.

Tapping Machines and Attachments
Alto Mfg. Co., 1647 Wolfram St., Chicago
Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Conneaut, Ohio
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Gaterman Mfg. Co., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Sloan & Chace, Inc., Newark, N. J.
Whitney Metal Tool Co., Rockford, Ill.

Taps, Threading, Collapsing
Gaterman Mfg. Co., Manitowoc, Wis.

Thread Dials
Colven, J. M., Yonkers, N. Y.

Thread Milling Attachments
Cisco Machine Tool Co., Cincinnati, O.

Classified Finding Index

Threading Machines
Kent Machine Co., Kent, Ohio.

Threading Tools
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tool Holders
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Western Tool & Mfg. Co., Springfield, O.

Tool Racks
Chicago Wire Chair Co., 619 N. La Salle St., Chicago

Tools, Boring
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Lathe and Planer
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Machinists'
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Spot Facing
Genesee Mfg. Co., Rochester, N. Y.

Trucks, Machine Shop
New Britain Machine Co., New Britain, Conn.
Towsley Mfg. Co., John T., Cincinnati

Turntables
Canton Foundry & Machine Co., Canton, O.

Universal Joints
American Tool Works, Inc., Hartford, Conn.
Borgeson Mfg. Co., Inc., Torrington, Conn.
Boston Gear Works Sales Company, Norfolk Downs, Mass.

Used and Rebuilt Machinery
Adams Co., Ogden R., Rochester, N. Y.
Akron Equipment Co., Akron, O.
Bath & Co., Cyril J., Cleveland, O.
Bennett Mchy. Co., 50 Church St., New York
Bernstein & Co., Geo. M., 549 W. Washington Blvd., Chicago
Bertolette Machine Tool Co., Inc., Jersey City, N. J.
Botwinik Brothers, New Haven, Conn.
Brown Machinery Co., St. Louis, Mo.
Brownell Machinery Co., Providence, R. I.
Burns Machinery Co., F. W., Racine, Wis.
Carlson Machinery Co., Davenport, Iowa
Central-West Machinery Co., Cincinnati, O.
Cincinnati Mchy. & Supply Co., Cincinnati, O.
Clark Machinery Co., Cleveland, O.
Clinton Machinery Co., 128 S. Clinton, Chgo.
Colcord-Wright Mchy. Co., St. Louis.
Delta Equipment Co., Philadelphia, Pa.
De Witt Tool Co., 240 Lafayette St., N. Y.
Donahue Steel Products Co., 204 N. Jefferson St., Chicago
Eastern Machinery Co., Cincinnati, O.
Economy Machinery Co., Cincinnati, O.
Emerman & Co., Louis E., 1761 Elston Ave., Chicago
Empire Machinery Exchange Company, Inc., Cleveland, Ohio
Easley Machinery Co., E. L., 555 Washington Blvd., Chicago
Falior Co., N. C., 30 Church St., New York
Fitzsimmons-Cole Mchy. Co., Pittsburgh, Pa.
Foster Machinery Co., Cleveland, O.
Haetten & Co., J. E., Inc., 50 Church St., New York
Harris Bros. Co., 35th & Iron, Chicago
Hill, Clarke & Co., 649 W. Washington Blvd., Chicago
Hyman & Sons, Joseph, Philadelphia
Johnson & Sons Machinery Co., Wm. C., St. Louis, Mo.
Jones Machine Tool Co., Cincinnati, O.
Kinney Co., E. A., Cincinnati, O.
Klauber Mchy. Co., E. L., St. Louis.
Little Co., W. F., Cleveland
Lucas & Son, J. L., Inc., Bridgeport, Conn.

Used and Rebuilt MachineryContinued—
McDonald Machinery Co., St. Louis
McMullen Mchy. Co., Grand Rapids, Mich.
Machinery Dealers, Inc., New Haven, Conn.
Manhattan Machinery Exchange, 30 Church New York
Marr-Galbreath Mchy. Co., Pittsburgh, Pa.
March Machinery Co., A. R., Cleveland, O.
Midland Equipment Co., 612 W. Van Buren, Chicago
Mid-West Machine Tool & Supply Company, Davenport, Iowa
Molitor Machy. Co., Chas., 118 S. Clinton St., Chicago
Morey and Co., Inc., 408 Broome St., N. Y.
Morris Machine Tool Co., Cincinnati, O.
Motch & Merryweather Machinery Co., Cleveland, O.
Nelson Machinery Co., Green Bay, Wis.
New Jersey Mchy. Exch., Newark, N. J.
Niles Tool Works Co., Hamilton, O.
Norton-Broadway Mchy. Co., Cincinnati, O.
O'Brien Machinery Co., Philadelphia
Osborne & Sexton Machy. Co., Columbus, O.
Oviatt & Co., D. C., Cleveland, O.
Pattison Supply Co., W. M., Cleveland, O.
Peninsular Machinery Co., Detroit, Mich.
Prentiss & Co., Henry, 149 Broadway, N.Y.
Prichard Co., C. W., Inc., Jersey City, N.J.
Purinton & Smith, Hartford, Conn.
Randle Machinery Co., Cincinnati, O.
Reese-Fritts Co., 37 S. Desplaines, Chicago
Reliance Mchy. Sales Co., Pittsburgh, Pa.
Rentschler & Co., J. P., 6722 N. Maplewood Ave., Chicago
Russell Machine Co., Pittsburgh, Pa.
Saltzman, H. L., 809 W. Lake St., Chicago
Schmitz & Co., 35 S. Clinton St., Chicago
Scott-Bansbach Machinery Co., 130 So. Clinton, Chicago
Severin-Tripp Machinery Co., 35 Church St., New York
Seyfert's Sons, L. F., Inc., Philadelphia, Pa.
Simmons Machine Tool Corp., Albany, N.Y.
Stocker-Rumely-Wachs Co., 117 N. Jefferson St., Chicago
Stoehr Mchy. Co., A. M., 560 W. Adams St., Chicago
Strafer, A. F., 30 Church St., New York
Strong, Carlisle & Hammond Co., Cleveland
Sun Machinery Co., Newark, N. J.
Syracuse Supply Co., Syracuse, N. Y.
Taylor-Hall Welding Corp., Worcester, Mass.
Tubor, Velick & Co., Inc., Lake & Desplaines Sts., Chicago
United Mchy. & Supply Co., St. Louis.
Wayne Machinery Co., Ft. Wayne, Ind.
Wertman, M. A., Cleveland, O.
White Machy. Co., A. D., 100 N. Jefferson St., Chicago
Wickes Machinery Co., Jersey City, N. J.
Winterer, Herman L., Philadelphia

Valve Grinders
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Vises, Drilling Machine
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Martin Tool & Die Works, J. E., Springfield, O.

Vises, Machinists'
New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

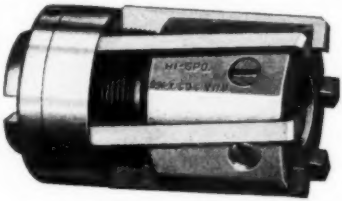
Vises, Milling Machine
Hartford Special Mchy. Co., Hartford, Conn.

Welders, Electric Spot
Taylor Welder Co., Warren, O.

Wood Working Machinery
Hendley & Whittemore Co., Beloit, Wis.
New Britain Machine Co., New Britain, Conn.
Porter-Cable Machine Co., Syracuse, N. Y.
Towsley Mfg. Co., John T., Cincinnati

Worms
Massachusetts Gear & T. Co., Woburn, Mass.

"X-L" Adjustable Inserted Spiral Blade Shell and Machine Reamer



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Lists of Used and Rebuilt Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published in the Classified Section at the rate of **50 cents a line**, across the page, each issue, plus **$2.50** for name and address. Minimum charge, **$5.00.** No display permitted.

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Lathe, 20"x15' Reed, 11' centers.
Lathe, 24"x10' LeBlond, quick chg.
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Lathe, 14"x8' Monarch, q. c.
Miller, Cinti No. 3 univ., O. type.
Miller, No. 2 Hendey universal, complete.
Millers, bench, No. 3 Burke; Rockd.
Radial drill, 5' Bickford.
Shapers, Smith & Mills 16", 12".
Tank, 12,000 gals., 5/16 sheets.

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14"x 6' LeBlond, l. c. g. and chuck.
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16"x 6' South Bend, compound rest, complete.
16"x 8' Hendey, c. r. and t. a., q. c. g.
16"x 8' Bradford, c. r., loose change gear.
16"x 8' Monarch, compound rest, standard pattern.
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No. 00 Brown & Sharpe auto., (2).
No. 0 Brown & Sharpe auto. (2).
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No. 2 Warner & Swasey, p. h., a. c. and b. f.
No. 4 Warner & S., g. f. h., a.c. and b. f.
No. 3 Foster g.f.h. turret screw mch., with p. f. carriage and turret.
2¼" Cleveland model "A" auto. screw mch., with 5-hole turret.
No. 55 Nat'l Acme 4-spdl. auto., (3).
1¼" Cleveland model "A" auto. screw mch., with 5-hole turret.
18" Libby, factory rebuilt.
No. 2-G Brown & Sharpe automatics (2).
No. 2 Brown & Sharpe turret forming (2).
1"x7" Millholland, pl. hd., auto. ck., bar fd., hand fd. cross slide and turret, complete, new.
1"x7" Millholland turret screw mch., pl. hd. auto. ck., bar feed hand fd. cross slide, with power fd. tur., new.

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3' American sensitive radial with t. a. and elevating table.
21" Aurora W. & L., square base, stationary head.
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2' arm Fosdick & Holloway plain radial, with t. a.
38" Niles, sliding hd., b. g. and p. f.
20" Superior W. & L. square base, stationary head.
14" 3-spindle Henry & W., h. s., b. b.
14" 4-spindle Henry & W., h. s., b. b.
No. 22 Colburn, sgl. sp., hvy. duty, 1¼" cap., with solid spindle and flange for receiving multiple drill heads, new, (2).
No. 44 Colburn, sgl. sp. heavy duty, 2½" cap., with solid sp. and flange for receiving multiple drill heads, new (2).
Colburn horizontal duplex drill, 2½" cap. with rotating table, arranged for motor drive, new.
No. 34 Demco high speed bench drill with C spindle, new.

MILLING MACHINES.

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Toledo hand milling machines.
No. 1½ B. & S., cone dr., universal, complete.
No. 1 Brown & Sharpe vertical.
No. 4 Brown & S., cone drive univ.
No. 1-B B. & S. constant speed plain, double nose spindle with Dickow dividing head.
No. 22 Garvin vertical, with circular milling attachment.
No. 1-Y Brown & Sharpe plain.

METAL CUTTING TOOLS AND SQUARING SHEARS.

No. 3 Atkins band saw, belt driven, new, (2).

GEAR CUTTERS AND HOBBERS.

26" No. 3 Brown & Sharpe auto.
No. 12 Brown & Sharpe, bevel.
No. 18 Gould & Eberhardt vertical, for spur & spiral.

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16" American, b. g. c., complete.
20" Hendey friction, (3).
22"x22"x 5' Putnam planers (2).
16" Smith & Mills, back grd. crank.
24"x24"x6' Cincinnati planer, 1 head.

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No. 118 Federal Junior spot welder, 220 volt, 3 phase, 60 cycle, new.
No. 10-A 65 K. W. Federal butt welder, 220 volt, 3 phase, 60 cycle.

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Centering machines, single spindle Cadillac, (2).

The Strong, Carlisle & Hammond Co.—Continued

GRINDERS.

No. 1 Brown & Sharpe universal.
No. 3 Brown & Sharpe universal.
No. 2 Brown & Sharpe surface, (2).
No. 3 Diamond wet tool grinder with drop apron, new.
No. 4 Diamond wet tool grinders with drop apron, new, (2).
No. 10 Brown & Sharpe plain.
No. 14—30" B. & S. plain cyl., (2).
No. 6-A Bryant internal.
No. 1 Le Blond cutter grinder.
J. B. Point "Yankee" drill grinders, complete, new, (2).
Type "DE" Hisey-Wolf internal.
No. 11 Brown & Sharpe pl. grinders.
Plain emery wh'l stand with column.
No. 1 Woods cutter and reamer grinder, complete, new.
No. 2 Woods cutter and reamer grinder, complete, new.
No. 2½ Woods cutter and reamer grinder, complete, new.
20" Whitney wet tool grinders, complete with countershaft, new, (2).
C3A Grand Rapids duplex drill grinders with wet att., new, (2).

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

1211-1223 N. 12th St., St. Louis, Mo.

LATHES.

10"x 5' Star bench, t. a.
15"x 6' Monarch, q. c. g.
18"x 8' Boye & Emmes.
20"x10' Boye & Emmes.
21"x12' Sidney, q. c. g., t. a.
26"x12' Putnam.
38"x14' Pond, triple geared.
60" New Haven turning, 7' center.

MILLING MACHINES.

No. 3 Cincinnati plain.
Owen duplex.
No. 25 Becker.
No. 12 Kempsmith.
No. 2½B Milwaukee vertical.
No. 3 Rockford, hand.
No. 1½ Brown & Sharpe.

DRILLING MACHINES.

22" Barnes, sliding head.
20" Champion.
4-spindle Allen, h. s.
3-spindle Allen, h. s.
3' arm Dreses radial.
6' arm Cincinnati-Bickford radial.

PLANERS AND SHAPERS.

10'x7'x25' Detrick & Harvey.
30"x30"x8' Belmer.
24"x24"x 6' Powell.
42"x42"x12' Powell.
48"x48"x14' Pond.
18" Walcott crank shaper.
24" Cincinnati crank.
24" Cincinnati crank motor-driven.

GRINDERS.

No. 1 Diamond surface.
No. 2 Walker universal.
No. 1 Fraser surface.
5"x18" Ott.
Schmidt automatic.
No. 50 Gardner disc.
8" Heald rotary, magnetic chuck.
Washburn twist drill grinder.
10"x72" Brown & Sharpe plain.

SCREW AND TURRET MACHINES.

2"x24" J. & L., geared head.
3"x36" J. & L., geared head.
No. 1 Pratt & Whitney, (2).
No. 3 Wood Tilted Turret.
No. 4 Wood Tilted Turret.

GEAR CUTTERS.

No. 1 Schuchardt & Schutte.
No. 1 Farwell hobber.
24" Britton bevel and spur.
26" Brown & Sharpe spur.

PRECISION TOOLS

No. 1 Dayton swaging machine.
No. 3½—7" swing Stark bench lathes.

MISCELLANEOUS.

Air compressors, (19).
Belt lacers, 9" & 12" Peerless.
Boring mill, 42" Niles, 2 heads.
Boring mill, 84" Niles.
Boring mill, 96" Bickford.
Boring mche., hor., No. 2 P. & H.
Cylinder boring & facing mch., 60".
Furnaces, Stewart cyanide hardening
Hammer, Bradley 60 lb., belt power.
Hammer, Morgan 600 lb. steam.
Hammer, 800 lb. steam.
Hammer, Bement 2000 lb. steam.
Keyseaters, No. 2 Mitts & M.
Metal saw, Espen-Lucas 31".
Press, No. 16 Stoll inclinable.
Presses, No. 19 Bliss.
Punch, No. 7 Long & A., 4" throat.
Shear, 62", 18" gap, No. 10 ga.
Taper rolling mche., No. 2 Hess.
Wheel press, 40", 150-ton.
Wheel press, 90", 300-ton.

FOR SALE BY

Clark Machinery Co., 1235 St. Clair Ave., Cleveland, O.

Lathe, 24"x16' Schumacher & Boye.
Milling machine, Ohio universal No. 20.
Milling machine, American universal No. 1½.
Planers, Gray 26"x26"x7', 28"x28"x8' and 42"x42"x10'.
Shaper, 16" Ohio and 16" Steptoe b. g.
Spinning lathes, Pryibil 18" and 22".
Screw machines, Warner & Swasey Nos. 6, 4, and 2.
Screw machines, Foster No. 6, power feed to turret and cut-off.

FOR SALE BY

Machinery Dealers Inc., - 410 Chapel St., New Haven, Conn.

Drill, 6-spindle Rockford, power feed	$325.
Drill, 28" Aurora, very good	150.
Japanning ovens, 39"x36"x36"	125.
Lathe, 30"x10' Pond, excellent	375.
Lathe, 16"x5' Whitcomb, excellent	375.
Lathe, 13"x5' Willard, 100% new	275.
Millers, Owen plain, perfect	175.
Millers, Briggs, practically new	150.
Millers, No. 4 Burke, power feed	85.
Millers, No. 13 Garvin plain, 90% new	150.
Presses, Stiles Nos. 2, 2½, 3, 4 and 5.	
Screw machine, hand, 1" capacity	135.

FOR SALE BY

Henry Prentiss & Co., 439 Communipaw Ave., Jersey City, N. J.

Bolt cutter, 2" Acme, double head.
Bolt header, 2½" Acme.
Boring mill, 24" Bullard, New Era.
Boring mill, 42" Bullard, power rapid traverse.
Boring mill, 102" Poole.
Broaches, Nos. 1, 2 & 4 Lapointe.
Drill, No. 1½ Avey 2-sp., b b.,bench.
Drills, 24" & 32" Cincinnati.
Drill, No. 25 Foote-Burt high speed, ball bearing.
Drill, 3' Morris radial, s. p., g. b.
Drill, 4' American triple purpose rad.
Drill, 4' Carlton plain radial, t. and l. pulley, gear box.
Drill, 5' Dreses radial, s. p., b. b.
Drill, 6' Cincinnati-Bickford plain radial, s. p., g. b.
Drill, 11' Lynd-Farquhar (wall).
Drill, No. 30 Natco multi spindle.
Drill, 28" Barnes all-grd., 4-spindle.
Gear cutter, 6" Gleason generator.
Gear cutter, 36 BM. Gould & E.
Grinders, 3"-6"-10" Norton plain.
Grinder, 12" Cincinnati universal.
Grinder, No. 2 Norton cutter & tool.
Grinder, No. 60 Heald cylinder.
Grinder, No. 65 Heald cylinder.
Grinder, 14" Pratt & W. surface, b.b.
Grinder, No. 6 Besly disc.
Lathe, 14"x10' L. & S., s. p. or m. d.
Lathe, 16"x 6' American, s.p. orm.d.
Lathe, 17"x16' LeBlond.
Lathe, 16"x 8' LeBlond.
Lathe, 20"x12' American, s.p. or m.d.
Lathe, 24"x10' Lodge & Shipley.
Lathe, 30"x12' L. & S. s. p. or m. d.
Lathe, 36"x24' Putnam, geared head, s. p. d., late type.
Lathe, 38"x20' Schumacher-Boye.
Lathe, 26"-44"x16' McCabe, dbl. sp.
Planers, 24"x 6 & 8' Ohio.
Planers, 30"x8' Cinti, late type.
Planer, 30"x10' Flather.
Planer, 36"x10' Woodward & P.
Planer, 48"x12' Powell.
Planer, 60"x44"x12' Pond.
Planer, 72"x54"x20' Pond.
Press, No. 2½ Billings & Spencer trimming, slide cutting attach.
Presses, Nos. 3 & 5 V. & O. incl.
Press, No. P. G. 2 Ferracute.
Screw machines, auto. ¾", 3½", 4½" Gridley.
Screw machines, auto. ⅜", ⅝", 1¼", 2½", 4½", 6" Cleveland; 16" G. & E.
Shapers, 16", 20" & 24" Cincinnati.
Shaper, 20" American.
Turret machines, 1½", 2½", 3½" Acme.
Turret machines, 2½" & 3½" J. & L.

Partial list only. Inquiries addressed to
439 Communipaw Ave., Jersey City, N. J. will receive prompt attention.

FOR SALE BY

Herman L. Winterer, 943-53 N. Front St., Philadelphia, Pa.

LATHES.

43"x17' 4½" Bement-Miles.
37½"x14' Johnson d. b. g., q. c. f., t. a.
32"x12' Pittsburgh, heavy duty, q.c.g.
32"x15' American, cone type.
27"x12' Bullard.
26"x11' Wickes, q. c. g.
26"x10' 6" Walcott, q. c., d. b. g.
28"x10' Niles, q. c. g.
21½"x8' LeBlond.
20"x8'6" Walcott, d. b. g., c. g.
19"x10' Draper, patent head.
18" x 7' Chard, d. b. g., semi q. c. g.
18"x6' to 8' lathes, (6).
16"x 6' American, q.c., pan bed, t.a.
15"x 8' Sidney, q. c., d. b. g., t. a.
14"x 6' Springfield, latest type, tool room type, t. a.
14"x 6' Lodge & Shipley, patent head, taper, pan bed.
14"x8', 14"x6' Lodge & Shipley, q.c.

TURRET LATHES.

3½x28" Pond, triangle.
3x36' Pratt & Whitney, hollow hex.
20x7' Bridgeport, 2½", h. s.
18"x7' Fay & Scott, back grd.
No. 22½ Garvin Monitor.
14"x 6 Warner & Swasey.
No. 3 Foster sc. machines 1-5/16" wire feed, (2).
1½"x9' Cincinnati-Acme, wire fd., (2).
No. 4 B. & S., bar feed, all auto. fds.
No. 2 Smurr & Kamen, wire fd., (5).

DRILL PRESSES.

42" Gang radial, s. p. speed box.
40" Barnes horizontal radials, (2).
26" Rockford, tapping attachment.
26" Aurora, sliding head.
34" Barnes, s. h., grd. fd., comp. tbl.
24" Foote-Burt heavy duty.
21" Aurora, b. g., p. f.
No. 1½ Knight milling & drilling mch.

MILLING MACHINES.

No. 5 Cincinnati, table 9½x50½".
No. 5 Brown & Sharpe vertical.
No. 3 Hendey, q. c. g.
No. 1 Van Norman hand miller.
No. 2 Rockford univ., heavy patt.
No. 3 Becker-Brainard, new model, q. c. g., vertical attachment.
No. 1½ American, plain.
No. 5-C Becker vert., rotary table.
No. 1 Rockford hand, power feed.

PLANERS AND SHAPERS.

48"x37"x9' Sellers, 2 heads.
48"x48"x12' Gray, 2 heads.
42"x36"x12' Cincinnati, 4 heads.
42"x36"x14' Cincinnati, 4 heads.
36"x36"x12' W. & P., 3 hds., m. d.
28" Woodward & P., crk., gear box.
48" Morton draw-cut shaper.
30"x30"x8' American, 1 head.
15" Lodge & Davis shaper.

BORING MILLS.

24" Bullard, rapid production.
Boring mill, car wheel, 60" Newton.
42" Bullard, 2 swivel heads, (2).
Boring, drilling and milling machine, 17½" Bement Miles horiz.
Boring mill, No. 1 Sellers hor., 2½" bar.

PIPE AND BOLT MACHINES.

1½" National, bolt, m. d.
4" & 8" Eaton, Cole & B., pipe.
6" Cox, quick opening dies.
4" Armstrong, No. 00 pipe machine.

MISCELLANEOUS.

Centering mche., 5" Whiton, dbl. sp.
Cold saw, No. 6 Nutter & Barnes.
Elec. hoist, 1-ton Link Belt, 2 ph. a.c.
Electric hoist, 1-ton Shepard, 220 v., d. c. (2).
Filing machine, Oliver on column.
Grinder, 13½"x5' Landis universal.
Grinder, disc, No. 17 Besly.
Grinders, several dbl. end electric.
Hammers, 15, 25 & 40 lbs. Bradley helve.
Hammer, 60 lb. Hotchkiss.
Hammer, 50 lb. Little Giant, belt dr.
Hammers, 60 lb. Bellefonte upright, 2.
Keyseater, Morton 18" stroke.
Keyseater, No. 4 Catlin, m. d.
Tire press, hyd., 60-ton Defiance.
Punch or gate shears, 72" Cleveland multiple, 15" throat.
Punch press, No. 10 Bliss mult.
Punch presses, all sizes, (55).
Punch, No. 2 H. & J., 15" th., arch. jaw, 1½" in 1".
Punch, horiz., L. V., grd., cap. 1".
Punch & shear, No. 2 H. & J., dbl. end, 20" th. cap., 1½" in 1".
Punch & shear, No. 4 Long & A., double end, 24" throats.
Punch & shear, Oekingcombination, cast steel frame, cap. 1½" in 13/16".
Riveter, air, 6' gap Allen, cap. 1½".
Riveter, air, 6' Allen, cap. ⅝".
Riveter, stake, No. 6 Whiting, 60" th.
Shr., No. 230 Niagara pwr. sq., m.d.
Shear, squaring, 48" Ohl, ⅜" cap.
Shear, 8' Ohl, No 20 ga.
Slotter, 14" Niles.
Slotter, 3½" Rhodes vertical.
Tooth rounding machine, S. & S.
Woodworking mche., Sidney comb.

Send for our latest 44-page illustrated Catalog and Price List.

FOR SALE BY

Syracuse Supply Company, 314 W. Fayette St., Syracuse, N. Y.

Guaranteed NEW MACHINES in original crates at prices below list:

Automatic, 2¾" Gridley, single spdl.
Pipe machine, No. 70 Forbes.

Exceptional values in USED TOOLS:

Automatic, 1¼" model A., Cleveland.
Drill press, 4-spindle Barr sensitive.
Drill press, 22" Prentice, rebuilt.
Drill presses, 2-spindle Woodward & Rogers sensitive.
Grinder, 24" Safety Emery Wheel Co. snag grinder.
Grinder No. 33 abrasive.
Lathe, 12"x 5' Reed.
Lathe, 16"x 9' American, geared head, rebuilt.
Lathe, 16"x10' American.
Lathe, 20"x12' Reed.
Lathe, 8x60 Fitchburg lo-swing.
Miller, 3½ Bilton automatic, (2).
Screw mchs., No. 4 W. & S., g.f.h., (3).
Straightener, No. 2½ Corey.
Miller, No. 5 Becker vertical.
Planer, 30"x30"x16' L. W. Pond.
Planer, 60"x60"x22' Niles.
Radial, 5' Pond.
Thread miller, No. 12 Lees Bradner.
Tilted turret, No. 6 Wood.
Turret lathes, No. 4 Foster (2).
Turret lathe, No. 2 Warner & S., hollow hex.
Turret lathe, No. 3 Cincinnati Acme.
Turret lathe, 2½x26 Pratt & Whitney.
Turret lathes, 3x36 Jones & L. (3).
Turret lathe, 2x24 Jones & Lamson.
Turret lathe, 21" Gisholt.
Turret lathe, 24" Steinle.

FOR SALE BY

The O'Brien Machinery Co., 113 N. Third St., Philadelphia, Pa.

Blueprint machine, "B" Buckeye, single phase.
Boilers, h. r. t. and vertical.
Boring mill, No. 1½ Beaman Smith horizontal, floor type, 3½" bar.
Compressors, 12"x10", ER 1, 325 cu. ft., (3).
Die sinker, No. 2 Pratt & Whitney.
Die sinker, No. 3 Pratt & Whitney.
Die sinker, No. 4 Pratt & Whitney.
Drill 28" Cincinnati upright, tap. att.
Drill, No. 14 Natco 12-spindles.
Drill, 20" Foote-Burt.
Drill, 32" Aurora, motor driven, tapping attachment.
Drill, 22" Aurora sliding hd., belt dr.
Drill, radial, 6' Dreses full universal, s. p. drive.
Gear cutter, 12" Gould & E.
Gear shaper, No. 35 Fellows, belt or motor.
Gear shaper, 24" Fellows belt or mtr.
Grinder, No. 2 Cinti univ. 12x36.
Grinder, Ingersoll cutter.
Hammer, 25 lb. Little Giant.
Hammer, 2500 lb., N.B.P., dble. leg.
Hammer, 2500 lbs. Chambersburg steam drop.
Hammer, 2000 lbs. Chambersburg, double frame, steam forging.
Hammer, 1000 lbs. Chambersburg steam drop forging.
Hammer, 600 lbs. Cham'burg st. d.
Hammer, 1000 lbs. Niles-Bement-Pond, double frame.
Lathe, 30"x26' Lodge & Shipley, belt, q. c. g.
Lathe, 27"x10' LeBlond, tur. attach.
Lathe, 30"x30' Harrington.
Lathe, 16"x8' Cisco, h. s., q. c. g., taper.
Milling mche., No. 3 Garvin duplex.
Milling mche., No. 5-B Becker vert.
Milling machine, Bickford, arranged for fluting taps.
Milling mche., No. 3 Hendey, q.c.f.
Pipe machines, 2", 4", 6", 8" & 12" Oster, Cox, Williams, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, comp. stock.
Planer, 36"x36"x24', Bement, 4 hds.
Planer, 32"x32"x8' Bement-M., 2 hds.
Planer 36"x36"x10' Ohio, rev. mtr. dr.
Press, No. 73½ Bliss trimming press, with side shear.
Press, No. 20 Bliss geared.
Press, Chambersburg trimming, mtr. drive, weight 12000 lbs.
Presses, Nos. 2, 3, 4 Federal, new.
Press, Bliss No. 2, Stiles pat.
Press, No. 049 Toledo.
Punch and shear, 12" throat Cleveland, type EF.
Punch & shear, No. 3 Royersford, double end, 18" throat.
Punch & shear, Buffalo armor plate, combination.
Saw, 32" Newton, 9" capacity.
Saw, 30" Espen Lucas, 8" capacity.
Saw, 22" Newton, 7" capacity.
Shaper, 24" Steptoe, belt drive.
Shaper, 17" Bement Miles, traveling head 2 heads.
Shaper, 20" Bement Niles, heavy duty, traveling head, one head.
Shaper, 16" Smith & Mills, sgl. grd.
Shapers, 20" Stockbridge, with speed box, (2).

USED AND REBUILT MACHINERY

FOR SALE BY

Colcord-Wright Machinery & Supply Co.
1223-29 North Broadway, - - - St. Louis, Mo.

Automatic, No. 00 B. & S., (3).
Automatic, No. 0 B. & S.
Grinder, No. 1 B. & S. universal.
Grinder, Oakley universal tool, (2).
Planer, 24x24x6' Ohio.
Planer, 42x36x12' Cleveland openside.
Pipe machine, 12" Curtis.
Pipe and nipple machine, ½" Landis.
Press, P4 Ferracute.
Punch, style M6 Rock River.

FOR SALE BY

Marr-Galbreath Machinery Co., 58 Water St., Pittsburgh, Pa.

Air compressors, Curtis 7"x7", base for motor	$ 375.
Armature banding lathe, 25"x8'	100.
Bolt cutter, 2" Landis, single head, dies	450.
Bolt cutter, 1¼" Morgan, double head, dies	350.
Bolt cutter, 1½" Acme, triple head	450.
Bolt cutter, 1" Acme "B" single, dies, near new	225.
Beam punch, single, capacity 2 holes 1"x1", 13" throat	600.
Boring mill, 24" Bullard, side head, m. s.	
Boring mill, 42" Bullard, 2 heads, belt	700.
Boring mill, 16' to 36' Niles, extension head motor, 220 volts, d. c.	25,000.
Bulldozer, No. 28 W.-W., for motor drive, new.	
Drill grinder, "WPEL" Wilmarth-Morman, mtr. 3-ph., 60 cy., 220 v.	200.
Forging machine, 3" Acme, steel bed, for motor	3800.
Gear cutter, No. 6 Brown & Sharpe, 72"x13"	3000.
Gear hobber, No. 4 Farwell, with change gears	1200.
Grinder, No. 18-D Rowbottom, double opposed head, b. b	500.
Grinder, No. 60 Heald, 19" arm, fixture attached	500.
Hack saw, No. 5 Marvel, with automatic feed for motor drive	250.
Hack saw, 9" Acme, for gear motor drive	175.
Hack saw, 12"x15" Racine, gear box for motor	300.
Hammers, 40 lb. and 80 lb. Bradley horizontal helve, each	550.
Keyseater, No. 6 Mitts & Merrill, 31" stroke	900.
Keyway cutter, 24" Morton, capacity 2½" wide	500.
Lathe, 36"x20' Niles-Bement-Pond, for motor drive	1800.
Lathe, 24"x14' Porter, plain change	500.
Lathe, 24"x10' Putnam, 18" chuck, taper attachment	400.
Milling machine, No. 3-B Milwaukee, single arm	1100.
Milling machine, No. 0½ Cincinnati plain	300.
Milling machine, No. 0 Kempsmith universal	400.
Milling machine, vertical, No. 4-B Becker	650.
Milling machine, vertical, No. C Becker, single spindle drive	1200.
Milling machine, duplex Knight, table 8½"x32"	575.
Pipe machine, 10" E. C. & B., fair condition	600.
Pipe machines, 8" Oster, with dies, near new	800.
Pipe machine, 8" Oster, with dies	450.
Planer, 60"x60"x20' Cincinnati, 3 heads, g. b., m. d.	4000.
Press, No. 59 Toledo, geared, 5" stroke, for motor	3000.
Press, No. 11 Perkins, bed 24"x30", 4" stroke, plain	1000.
Punch and shear, No. 2 Hilles & Jones, 20" throat, 1"x1" plain jaw	600.
Punch and shear, No. 3 L. & A., 8" throat, ⅝"x⅝" plain jaw, single	500.
Punch and shear, No. 6 L. & A. 5" throat, d. e., ½"x½" plain jaw	450.
Punch and shear, No. 51 Beloit combined, ⅜"x⅜"	175.
Punch, coping, steel plate, 13" thrt., 36" die space, 2 holes 1"x1", for m.d.	600.
Radial drill, 2½' Fosdick, tapping attachment	300.
Radial drill, 3' Dreses-Mueller	300.
Radial drill, 3' Prentice, g. b., t. a	400.
Radial drill, 4' Dreses (Simplex)	275.
Rivet header, 1" Ajax, continuous hand feed	775.
Shaper, 15" Potter & Johnston, universal crank, belt or motor drive	500.
Shear, squaring, 60" Bertsch, 18" gap, cap. 16 ga., power	450.
Shear, squaring, 36" Niagara 14 ga. hold down, power	150.
Turret lathe, 13" Gisholt, 2½" hollow spindle	500.

FOR SALE BY

Severin-Tripp Machinery Co., 25 Church St., New York, N. Y.

Boring mill, vertical, 53" Niles.
Boring mill, vertical, 72" Betts.
Boring mill, vertical, 8' Pond.
Boring mill, vertical, 54" Bullard.
Boring mill, vertical, 6' Pond.
Boring mill, hor., Niles, 4½" spdl.
Boring mill, hor., Niles, 6" spindle.
Boring mill, hor., Bement 4" spdl.
Brake, 8' Obl. 16 gauge.
Bulldozer, Wm. & W. No. 3.
Compressor, C. P. T. 15x9x10.
Compressor, C. P. T. 8x8.
Crane, 5-ton, 52' span, 170' runway.
Crane, 5-ton, 45' span, 140' runway.
Grinder, Landis 36"x144".
Hammer, 4 B Nazel.
Hammer, 400 lb. Chambersburg.
Hammers, 2 board drop Chambersburg, 500 lb., m. d.
Lathe, 18"x 6' Champion.
Lathe, 24"x12' Prentice, geared hd.
Lathe, 24"x16' 6" Greaves-Klusman, oil country.
Lathe, 30" LeBlond, 22' cent., d.c. d.
Lathe, 36"x28' L. & S., geared head.
Lathe, 36"x22' Pond, d. c. motor.
Lathe, 42"x28' Putnam, geared hd.
Lathe, 60"x38' Pond.
Lathe, 72"x38' Pond.
Lathe, 72"x40' Sellers.
Lathe, gap, 18"x36" Fay & Scott.
Pipe machines, 6" & 8" Saunders.
Pipe machines, 4" Bignall & Keeler.
Planer, 36"x36"x14' Pond.
Planer, 36"x16' Pond, m. d., d. c.
Planer, 42"x42"x26' Pond.
Planer, 72"x72"x18' Pond, rev. m.d.
Planer, 72"x72"x30' Sellers, b. d.
Press, 500-ton United E. & F.
Punches, No. 4 Hilles & J. dbl. end.
Radial drill, 30" gang, b. d.
Radial, 36" Cin. Bickford, s. p. d.
Radial, 4' American, s. p. d.
Roll, bending 25', top roll 26".
Rotators, 5-ton, 5-7½, 25-ton.
Shaper, 22" Cin., dbl. traveling hd.
Shaper, 24" Cincinnati.
Shear, 64" H. & J., gate, m. d.

FOR SALE BY

McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.

Bolt threader, Acme 2 and 3 heads.
Brakes, 10" D. & K., 14-gauge head.
Chain hoists, Yale & Towne 1½ & 2-ton
Clock, electric time system.
Demagnetizer, Walker.
Drill, Baush 18-spindle.
Drills, Baker.
Drills, Leland-Gifford 1, 2 and 3 spindle, h. s., b. b.
Drill, Detroit 5-spindle horizontal.
Drills, Demco, H. & W., Kokomo 1-spdl., Sipp 1 & 2-spdl., h. s., b. b.
Drills, 20", 24", 26 & 28" b. g., & tap.
Furnace, Holcroft 92 k.w. annealing.
Gear shaper, Fellows 36".
Grinder, Heald No. 60 cylinder.
Grinders, American No. 2 surface; Blount, 30" wet, (3); Pratt & W. 14" vertical surface; Ott 5"x18"; Landis 12"x48"; plain; Norton 10"x24" plain; Modern internal.
Hack saws, 4x4, 6x6 & 6 Racine Jrs; Atkins 4x4", 8x8" high speed.
Keyseaters, Davis No. 1 with cutters.
Lathes, South Bend 24"x14'; LeBlond 16"x8', q. c. g.; Hamilton 25x14', q. c. g.; Davis 22"x10' Star 12x5, tool room; L. & S. 16"x6'; Cataract precision, collets, cross slides, etc. 40 other assorted sizes.
Milling and drilling mches., Knight No. 1½ with p. f., rotary att.
Milling machines, Kempsmith No. 2; Ohio No. 20 plain; Becker "SD" vertical, rotary table, 17200 lbs.; Cin'ti No. 3 pl.; American No. 1½ universal; Brown & Sharpe 1½; Ohio 34; LeBlond No. 3-H plain; Brown & S; No. 3 pl.; Cincinnati No. 2 pl. and Becker No. 4-B vert.
Planers, Gray 28"x28"x8' 1 head; Whitcomb-Blaisdell 24"x24"x8', 1 head.
Punches, Wetterhahn 18", throat ½" in ½"; Long & A. No. 0, 1" in 1"; Williams & White No. 15, double end punch and shears.
Punch presses, Bliss No. 18 and Toledo No. 1; Swaine Nos. 29, 33 and 37 o.b.i.; Rockford No. 3, o.b.i.
Rivet spinner, Grant 3/16".
Screw machine, Gridley 1-spdl. 2½" auto.; Cleveland 1½" auto.; P. & W. No. 2½ hand; Foster No. 3 hand; Woods No. 2 tilted turret head; Bardons & Oliver No. 7; National Acme No. 52 auto., 4-sp., m. d.
Shapers, Springfield 12"; Whipp 16"x20"; 14" Steptoe; S. & M. 13"; Cincinnati 20", b. g.
Shears, 60" thrt. rotary slitting, (2).
Stencil machine, Bradley.
Tapping machine, Garvin No. 2.
Turret lathes, Warner & S. No. 3-A.
Welders, 20 k. w. spot, Winfield.
Welders, butt, Federal, ⅜" rds.
Lot of iron bench legs.

FOR SALE BY

F. H. Allen, - - - - Donaldsonville, La.

Boring bar, portable, 5"x8', brand new.
Hydraulic wheel press, 150-ton, up-to-date, brand new, with two pumps.
These machines will be sold for one-half market price.

FOR SALE BY

Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.

LATHES.

21"x10' LeBlond, q. c. g., t. a.
18"x10' Boye & Emmes, q. c. g.
18"x 8' Boye & Emmes, q. c. g., taper, draw, collet attachment.
18"x 9' Chard, q. c. g., taper, draw.
18"x 8' Sidney, quick change grs.
18"x8' American, q. c. g., taper, relieving attachment.
14"x 6' Bradford taper, draw collets, relieving attachment, q. c. g.
16"x 8' Flather, q. c. g.
16"x8' Hendey, q.c.g., taper, collets.
16"x6' Seneca Falls, q. c. g., (2).
16"x 8' Pratt & Whitney, taper.
15"x 6' Carroll-Jamieson.
14"x6' Bradford, q.c.g., draw, collets.
14"x6' LeBlond, quick change gear.
14"x 6' Hendey, draw attachment.
18"x10' Walcott, q. c. g., d. b. g., large variety 12"-24"x5'-12'.

MILLERS.

No. 2 Brown & Sharpe universal.
No. 2 B. & S. univ., vert. attach.
No. 3 B. & S. univ., vert. attach.
No. 3 B. & S. plain.
No. 2 Rockford univ., vert., rot. att.
No. 2½ Rockford univ., vert. attach.
No. 4 Ohio rapid production.
Gooley & Edlund variety sizes, (6).
No. 3 Kempsmith plain, late type.
Kearney & Trecker plain, sgl. pul.
Model B Becker vertical.
No. 3 Becker vertical.
30" Bullard, 32" Colburn.
No. 5 C Becker, vertical, rot. table.

SHAPERS.

14", 16", 18" crank, plain.
24" Gould & Eberhardt, grd. crank.
24" Hamilton heavy, grd. crank.
No. 16 Hendey, b. g.
24" Steptoe, geared crank.
20" Ohio, geared crank.

RADIALS AND DRILL PRESSES.

5-spindle Henry & Wright, hi-sp.
4-spindle Leland Gifford, ⅝" cap.
6-spindle Leland Gifford, ⅜" cap.
4'spindle Avey, ⅝" cap.
4-spindle Leland Gifford, ⅜" cap.
5' Bickford.
36" American, light pattern.
24" Becker Bros., No. 310.
6-spindle Sipp, ⅝" capacity.
5-spindle Henry & Wright, ½" cap.
2-spindle Henry & Wright, 1" cap.
1-spindle Sipp with comp. table, (2).
30" Superior, Aurora sliding head.
28" Aurora sliding head.
26" & 24" Superior, Aurora slid. hd.
Knight drilling & milling machine.

GRINDERS.

Bryant internal and chucking, (4).
No. 2 Norton universal.
Nos. 2 & 3 Oakley universal.
Cincinnati univ., 4"x57" table.
No. 2 LaSalle universal, (2).
12"x72" Brown & Sharpe univ.
No. 2 Brown & Sharpe surface.
8"x32" Norton cylindrical.
12"x60" Landis cylindrical.
6"x18" Landis self-contained.
10"x30" Landis cylindrical No. 1½.
No. 65 Heald cylinder.
8' Heald ring grinder, mag. chuck.
Nos. 4 & 120 Gardner ball bearing.

SCREW MACHINES AND TURRET LATHES.

Jones & Lamson, single spindle.
Nos. 2 & 4 Warner & S. pl. & grd.
No. 0 G. Brown & Sharpe, auto.
No.6 Warner & Swasey, b.g., fr.hd
No. 6 Foster, power long. & cross.
1" & 1¼" cap. Acme, b. g., frict. h.
Nos. 0, 1, 2, 3 Foster and B. & O.
16"—18" Fox turret lathes, fric. hd.
No. 4 Brown & S., b. g., fric. hd.
Nos. 00, 0 & 2 B. & S. automatics.

PUNCH PRESSES AND SHEARS.

No. 19 Bliss inclined, flywheel, (2).
No. 5 Niagara incl., flywheel.
No. 1 Toledo incl., flywheel, (2).
No. 33P Toledo.
No. 51 Toledo, 6¼" stroke.
No. 71 Toledo double crank.
8' Toledo power square shear.
No. 5 Toledo geared.
Emco bench type, (3).
⅜" capacity slitting shear.

MISCELLANEOUS.

Balancing machine, motor attached.
Bolt cutters, 1" & 1¼" Landis, (3).
Bolt cutters, ½" & 1" Acme, (2).
Broaching mch., Nos. 1, 2 & 3 LaPointe
Die slotter, Garvin.
Gear cutter, No. 13 B. & S., bevel & s.
Gear cutters, Waltham auto., (4).
Keyseater, No. 2 Davis.

FOR SALE BY

W. P. Little Co., - West 9th & Front Sts., Cleveland, Ohio

GRINDERS.

No. 60 Heald cylinder.
8" Heald rotary surface.
No. 1 B. & S. universal.
10"x24" Landis plain, self-contained.
No. 75 Heald internal.
No. 6 Bryant chucking.
No. 10 Besly disc.
No. 24 Gardner vertical disc.

LATHES.

14"x6' American, q. c. g. and t. a.
18"x6' Bradford, q. c. g. and t. a.

MILLING MACHINES.

No. 13 Garvin.
No. 0 Cincinnati plain.

POWER HAMMERS.

Beaudry, 50 lb.(2).
Bradley 50 lb. upright compact

PUNCH PRESSES.

E. G. 22 Ferracute, geared.
No. 54 Cleveland straight side.

GEAR SHAPERS.

24" Fellows gear shapers, (2)

MISCELLANEOUS.

Cold saw, 20" Burke.
Radial, 3' Bickford, cone type.
Spline miller, 2" Pratt & Whitney.
Wiring machine, No. 1 Magee.

Partial list; send us your inquiries; 150 other tools in stock.

FOR SALE BY

Brownell Machinery Co., - 150 Pine St., Providence, R. I.

DRILLS.

5' Prentice Bros. radial.
4' Prentice Bros. radial.
26" Henry & Wright sensitive radial.
25" Weigel, sliding head.
22" Prentice, stationary head.
2-spindle Leland, b. b.

GEAR CUTTERS

No. 13 B. & S. 18x4, spur and bevel.
No. 3 B. & S. 26x8, spur.

GRINDERS.

No. 11 B. & S. plain 4x30.
No. 1 Norton tool and cutter.
Nos. 2 & 3 B. & S. cutter & reamer.
No. 1 B. & S. automatic surface.
20" Diamond emery.
20" Blount wet tool.
C-2-T Grand Rapids twist drill ½" to 2½".

LATHES.

9" Brown & Sharpe universal hand.
B. & S. dbl hd. polishing & finishing.
12x5 Champion q. c. g.
14x6 Rockford Economy.
16x8 Monarch q. c. g.
20x10 Monarch q. c. g.
27x14 Sidney, heavy duty.
30x20 Fitchburg.

MILLING MACHINES.

No. 42 Ohio plain.
No. 2-heavy B. & S. plain.
18" Cincinnati plain, b. g.
No. 2 Brown & Sharpe vertical.
No. 4-B Becker vertical.
No. ½ Van Norman duplex.
Whitney hand miller.
Vertical spdl. att. for B. & S. millers.

PLANERS AND SHAPERS

17"x17"x4' Whitcomb.
17"x20"x4' Whitcomb-Blaisdell.
24"x24"x6' Whitcomb.
36"x36"x12' Gray, spur gear.
7" Rhodes shaper.
15" Springfield shaper.
15" Potter & Johnston.

SCREW MACHINES.

No. 0 B. & S. plain head, wire feed.
No. 2 Garvin plain head.
No. 2 Foster plain head, wire feed.
18"x18" P. & W., b. g., p. f.

MAGNETIC CHUCKS.

8x10 Taft-Pierce magnetic chucks, 110 v., d. c., suitable for No. 2 sur. grinder.

MISCELLANEOUS.

Band saw, 12" H. & R. metal cutting.
Broaching machine, No. 2 Lapointe (Hudson).
Engine Turning machine, Field.
Filing machine, Thurston.
Hack saw, 13"x18" Peerless.
Hammer, 300 lbs. Beaudry power Champion.
Pwr. press, No. 2 Sidney inclinable 2".
Power press, No. 2-B Standard, d. a. 1"
Power press, No. 68 Bliss, d. a. cam.
Rolling mills 3x5, also 4x6 and 5x8.
Slotter, 12" Bement-Miles.
Swaging machine, No. 2 Langelier.

FOR SALE BY

Schmitz & Co., - - 35 S. Clinton St., Chicago, Ill.

Arbor presses.
Bolt threader, Geometric ⅞".
Drill presses.
Grinder, No. 10 Brown & S., 6"x20".
Lathe, 24"x12' Lodge & S., q. c. g.
Lathe 22"x20' American, l. c. g.
Mortiser, hollow chisel Greenlee.
Punch press, Farrell, 14"x24", str. 8".
Woodworking, sheet metal and iron working machinery of all kinds.

FOR SALE BY

E. L. Klauber Machinery Co., 320 South Third St., St. Louis, Mo.

LATHES.

Pratt & Whitney turret lathe, 2" bar feed; with geometric die heads and complete equipment. Performs beautifully.
Warner & Swasey turret lathe, 2½". Hollow hexagon turret.
24x14 Lodge & Davis lathe, cabinet style legs. Good heavy tool.
24x10 Lodge & Shipley q. c g. lathe.
21x8 LeBlond heavy duty lathe, q. c. g., double back gear.
26x10 C. M. C. lathe, cabinet style legs, q. c. g., double back gear.
16x8 Lodge & Shipley lathe, q. c. g., double back gear.
16x8 Monarch lathe, q. c. g., double back gear.
16x8 South Bend lathe, standard change gear.
16x5 Hendey lathe, yoke head, q. c. g., with taper attachment.
14x6 Bradford lathe, standard change gear.
14x6 Carroll-Jamieson lathe, q. c. g., double back gear.
Many other lathes, also drills, millers, planers, screw machines, grinders, and other tools.
800 Brand new emery grinders and polishing machines going at used machine prices. Many different sizes. Dealers' opportunity.

FOR SALE BY

J. L. Lucas & Son, Inc. - No. 3 Fox Street, Bridgeport, Conn.

BORING MILLS.

24" Bullard, v. t. l., 3 jaw comb., chuck table, with New Era hd., serial 6920.
36" Bullard, v.t.l., 3 jaw comb., ck. tbl., pwr. rapid traverse, serials 5000, (2).
42" Bullard two head vertical boring mill.

DRILLS.

No. 11 Natco multiple, 7-spindle.
Radial, 3' Carlton, tapping att., (2).
Radial, 4' Hammond, tapping att.

GRINDERS.

No. 2 Brown & S. univ., complete.
No. 2 B. & S. surface, mag. chuck.
No. 33 Abrasive surface chk., m. d.
No. 2 Taft-Peirce univ. full equipt.
6x32 Norton pl., late type, serials 8300.
10x18 Norton pl., late type, serial 9600.
10x80 Norton plain.
24x144 Landis plain, rebuilt.
No. 6—20 Besly double spindle disc.

HAMMERS.

100 lb. Bradley Compact.
250 lb. Beaudry Champion.
500 lb. Mossberg No. 5 auto. drop.
600 lb. model D. Billings Spencer.

LATHES.

14"x6' Hendey, yoke head, (15).
16"x8' Hendey, yoke head.
32"x18' New Haven, 95% new.
32"x12' Bridgeford, grd. hd., mtr. dr.

MILLERS.

No. 2C Hendey univ., latest pattern, comp.
No. 1½ Hendey-Norton univ., fully equipt.
8" P.&W. auto. millers, (brand new).
12" P. & W. auto. millers, rebuilt
No. 24 Ohio heavy duty plain, q. ch.
No. 34 Ohio heavy duty pl., dbl. b. g.

MISCELLANEOUS.

Eyelet machines. No. 05 Waterbury.
Gear cutter, 4" Waltham excellent.
1x5 New Britain auto. screw.
No. 24 New Britain chucking.
Thread miller, 6x48 Pratt & Whitney.

FOR SALE BY

Foster Machinery Company, 10203 Quincy Ave., Cleveland, O.

Band saw, 24" Woods.
Bolt cutter, 1½" Acme.
Boring mill, vertical, 42" Bullard.
Grinder, No. 60 Heald, cylinder.
Hack saws, 12x12 Racine.
Lathe, 16"x6' Monarch.
Lathe, 18"x8' Lodge & Shipley.
Miller, No. 00 Brown & S., hand.
Planer, 26"x26"x8' Gray.
Press, No. 3 Stiles.
Riveter, High Speed 2A.
Shear, alligator, Canton, cap. 1½' sq.
Shear, 36"x18' gap, foot.
Trolleys, I-beam, 1 & 2 ton.

FOR SALE BY

The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.

Drill, 21" C. & O., p. f.
Drill, 24" Milwaukee, b. g., p. f.
Engraving mche., No. 1-D Gorton.
Lathe, No. 2 Stark precision.
Lathe, 9"x14" Porter-Cable prod.
Lathe, 9"x12" Sundstrand prod.
Lathe, 15"x6" Von Wyck, 2 chucks.
Lathe, 16x8 Flather, q. c. g., taper.
Miller, No. 1 Bickett, plain.
Miller, No. 1 Bickett vertical.
Miller, No. 8 Becker duplex.
Miller, No. 3 Cincinnati plain.
Planer, 9"x7"x24" Federal, bench.
Press, No. 3 R. & S., o. b. i.
Press, No. 3 Rockford, o. b. i.
Pipe machine, 2" Jarecki.
Pipe machine, 6" Merrill.
Pipe machine, 12" Curtis & Curtis.
Routing mch., 12" Leland, high spd.
Shaper, 20" Cincinnati, b. g.
Shop saw, No. 5 Marvel auto., feed.
Tapping mach., ⅜" Rickert & S., horiz.

FOR SALE BY

B. L. Saltzman, 809 W. Lake Street, Chicago, Ill. / 524 W. Van Buren St., Chicago, Ill.

Bolt threader, Geometric 1½".
Boring mill, No. 1 Barrett.
Drills, Cincinnati b.g., taper att., 20".
Drill, Fox multi-spindle.
Gear hobber, No. 5-A Lees-B.
Gear generators, No. 6 & 11 Gleason.
Grinder, No. 60 Heald internal.
Grinders, Taylor & Fenn cylinder.
Lathes, D. & W. Pond 16"x7'.
Lathes, Lodge & Shipley 16"x10'.
Miller, No. 5 LeBlond.
Punch presses, Bliss, (Stiles type), No. 2½.
Screw machines, Bardons & Oliver No. 4.
Screw machines, Foster No. 6.
Screw mchs., Warner Swasey No. 6.
Screw machines, Warner & Swasey, hand, Nos. 1 & 2.
Shapers, 12", 16" & 24".

Motors and Generators—Factory Transmission.

FOR SALE BY

A. M. Stoehr Machinery Co., 560 W. Adams St., Chicago, Ill.

Boring mills, 20" Bullard; 60" & 12' Niles; all have 2 heads.
Brake, 8' Dries & Krump, 14 gauge.
Compressors, 12 different sizes.
Drill presses, 4-spindle Avey, h. s.
Engraving machines, 3 Gortons.
Furnaces, melting, for soft metal and aluminum.
Gear cutters, 72" Brown & Sharpe; 60" Gould & Eberhardt; and others.
Grinders, LaSalle pl. and automatic.
Lathes, 18x8 Barnes, hvy. duty; 11" Rockford; and others.
Milling machines, plain & universal; also No. 20 Van Norman, duplex.
Oil extractors, centrifugal, (8).
Punch presses, No. 16 Bliss horning; No. 34 Bliss; arch, and others.
Punch & shears, No. 3 Long & A., d. e., ⅝" thru ⅞"; No. 14½ W., d.e., 15" throat; No. 5 Long & A., d. e.
Riveters, No. 103 Grant, motor drive; Nos. 4-A & 5-A High Speed; No. 1 L. & A., ⅝" cap.; No. 8 Stimpson automatic, for split rivets.
Saws, 9x9 Sterling high speed; 12" band.
Screw machines, (2); Nos. 52 & 53 Acme; others plain and automatic.
Tapper, R. & S., ⅝" capacity.
Welders, both spot and butt.
Wire straightening machines, (5).

FOR SALE BY

Nelson Machinery Co., 123 N. Pearl St., Green Bay, Wis.

Bolt cutter, 2" Acme, style A, sgl.
Broaching machine, LaPointe No. 2.
Drill, Barker 25", sliding head, new.
Drilling machine, Garvin No. 1-S horizontal duplex, open belt.
Gasoline engine, 40 h.p. DuBois hor.
Lathe, Gardner No.4 polishing, b.b.
Miller, Garvin No. 2 universal, index heads, vise.
Miller, Kempsmith No. 2½ plain.
Press, Toledo No. 5, o. b. i., geared, 24" stroke.
Punch & shear, single, Wms.-White No. 14.
Riveter Hanna 50-ton pneumatic, at 100 lbs. pressure, 10' throat.
Shear, rotary, No. 20 Quickwork, 30" throat.
Welder, spot, National No. 302B, for 25 cy., 440 v., 20 thrt., ½" cap.

FOR SALE BY

A. F. Strafer, . . . 30 Church St., New York City

BORING MILLS, VERTICAL.

16'—32' Niles extension type, b. d.
14'—20' Betts extension type, b. d.
10'—16' Niles extension type, b. d.
106" Pond standard mill, belt or m.d.
90" Niles 2-heads, belt drive.
84" Betts 2-hds., heavy, belt or m. d.
72" Cincinnati rapid production, m.d.
60" Bullard, single pulley drive.
54" Bullard rapid production, s. p. d.
53" Niles-B.-P., rapid traverse, m. d.
48" Gisholt rapid traverse, m. d.
36" Bullard V. T. L. New Era type.

BORING MILLS, HORIZONTAL.

5" bar, Niles-Bement-Pond, belt dr., column travel, 10' floorplate 16'x11', rapid traverse, outboard support, bars.
5" bar, Barrett cylinder borer.
5" bar, Deitrich & Harvey, floor type.
5" bar, Newark 60" swing, knee type.
6" bar, Barrett cylinder borer.
6" bar, N.-B.-P., floor type.
4½" bar Niles-B-P., floor type.
3" bar, universal table type.
6" bar, Niles knee type.

GRINDERS.

18"x96" Norton pl., arr. for motor dr.
10"x36" Norton plain, overhead belt.
No. 1 Landis universal, belt drive.
84" Diamond surface.

HAMMERS.

600 lb. Erie steam hammer.
400 lb. Chambersburg, steam.
No. 4 Nazel, type I motor drive.
No. 4-B Nazel hammer, motor drive.

GEAR CUTTERS.

6-A Cincinnati capacity 70"x20", latest model, motor drive.
No. 4 Brown & Sharpe 36" capacity, fine condition, low price, (2).

LATHES.

72"x40' Sellers heavy type, weight 50 tons, belt or motor drive.
76"x34' Niles-B.-P. raised lathe.
26' center, triple geared, motor drive.
54"x28' H. S. & M. heavy, modern, quick change, taper attachment.
42"x28' Putnam, geared head, taper attachment, quick change.

MILLING MACHINES.

No. 3 Hendey, plain, cone type.
No. 3-B Brown & S. hvy, plain.
No. 4 Cincinnati plain, high power.
No. 2-B Brown & Sharpe, heavy.

PLANERS.

72"x72"x18' Pond, rev. motor drive.
84"x84"x30' Sellers, motor drive.
72"x72"x30' Sellers, belt drive.
60"x48"x14' Cincinnati, gr. box, m.d.
48"x48"x16' N. B. P. rev. motor dr.
52"x36"x22' N. B. P. rev. motor dr.
42"x42"x30' new Niles-Bement-Pond reverse motor drive.
42"x42"x26' N. B. P. rev. motor dr.
36"x36"x30' N. B. P. rev. motor dr.
36"x36"x16' new Niles-Bement-Pond reverse motor drive.

PUNCHES AND SHEARS.

No. 3 Hilles & Jones dbl. 36" t., b. d.
No. 17 Williams & White, 34" tht.
No. 5 Hilles & Jones, 48" t., m. d.
No. 4 H. & J., dbl., 48" thr., m. d.
Angle shear, H. & J., 6"x1" cap.
Rotary, Gray No. 1—3/16" cap.

MISCELLANEOUS.

Bulldozer, W. & W. No. 4.
Cold saw, 60" Newton, m. d.
Cold saw, 50" Espen Lucas, m. d.
Core wire straightener, ⅜" to 5/16".
Hydraulic forging press, 1200 tons.
Gear cutters, 6A Cincinnati, motor drive; capacity 72"x20".
Plate planer, 25' H. & J. No. 6
Riveter, Allen, 48" throat, 24" gap.
Welding torches and generators.

FOR SALE BY

The Randle Machinery Co., **1733 Powers St., Cincinnati, Ohio**

Arbor pr., Nos. 3½ and 7 Greenerd.
Automatic, 4½" Gridley.
Bolt cutter, 1" Acme.
Bolt cutter, 2" Acme.
Bolt cutter, 3" Acme.
Boring mill, 40" & 42" King.
Boring mill, 72" Niles.
Boring mill, 60" Niles spindle type.
Drill, 20" Rockford upright, b. g., t.a.
Drill, 21" Cincinnati upright.
Drill, 24" Cincinnati upright, b. g.
Drill, 3' Carlton, plain radial, b. g.
Drill, 4' Bickford radial, g. b. d.
Lathe, 14"x 6' LeBlond, l. c.
Lathe, 16"x 6' New Monarch, q. c.
Lathe, 16"x 6' LeBlond, l. c., t. a.
Lathe, 18"x 6' loose change, rebuilt.
Lathe, 18"x 8' LeBlond, l. c.
Lathe, 18"x10' LeBlond, q.c., 6x14 gap.
Lathe, 20"x12" Ohio l. c.
Lathe, 24"x12' LeBlond, l. c.
Lathe, 24"x12' LeBlond, q. c.

Lathe, 25"x12' National, semi-q. c.
Milling machine, No. 2 LeBlond, belt feeds.
Milling machine, No. 4G LeBlond, plain, m. d.
Planer, 38"x38"x16' Gray, 3 heads.
Planer, 32"x32"x16' Gray, 2 heads.
Planer, 30"x30"x16' American, 2 hds.
Planer, 62"x62"x14' Cinc., 4 hds, m.d.
Shaper, 16" Cincinnati.
Shaper, 16" Gould & E. plain crank.
Shaper, 16"-28" Queen City, slightly used.
Shaper, 16"-24" Steptoe, new & used.
Shaper 24" Flather, b. g.
Bending rolls, No. 3 Hilles & J., m.d.
Turret lathe, 2½"—3x36" J. & L., chucking type.
Turret lathe, 28" & 34" Gisholt, m. d.
Wheel press, 100-ton.
Wheel press, 150-ton Caldwell.
Wheel press, 200-ton Caldwell.

Your inquiries are solicited for your needs in machine tools.

FOR SALE BY

Reliance Machinery Sales Company

1405 Brighton Road, - - - N. S. Pittsburgh, Pa.

Automatics, Nos. 52, 53 & 55 Acme.
Blower, No. 5 Champion, 6¼" outlet.
Blower, Amer. pressure, 461 cu. ft.
Bolt cutter, ½" Acme, class "A," 2-sp.
Boring mill, No. 44 D. & H., floor type, 3½" bar.
Boring mill, Niles horiz., 4½" bar.
Boring mill, 34" Colburn, 1 head.
Boring mill, 51" Niles, 2 heads.
Boring mill, 62" Bullard, 2 heads.
Brake, 48" Keane, capacity ⅜".
Brake, 72" Dreis & Krump, cap. 16 ga.
Broaches, Nos. 3 and 4 LaPointe.
Buffers, 10 h. p. 220-3-60, 3600 r.p.m.
Bulldozers, No. 4 Williams & W.
Drills, 28" Barnes, sliding head.
Drills, 36" Snyder, sliding head.
Gear cutter, 36"x10" G. & E., s. p. d.
Grinder, Oliver drill, ½" cap., m. d.
Grinder, WPL New Yankee, cap. 2½".
Grinders, Nos. 11 & 12 B. & S. pl.
Grinder, 12"x24" Modern plain.
Grinder, No. 16 Besly, double disc.
Hammer, 2-A High Speed, m. d.
Hammer, 80 lb. Bradley helve.
Hammer, 300 lb. Bradley upright.
Hammer, No. 4-I Nazel forging.
Lathe, 12"x 6' Seneca Falls.
Lathe, 12"x10' Davis tool rm., q.c.g.
Lathe, 14"—28" Fay & Scott gap.
Lathe, 14"x 6' Seneca Falls, q. c. g.
Lathe, 16"x 8' Hamilton, q. c. g.
Lathe, 18"x 8' American, g. h., m.d.

Lathe, 18"x8' L. & S., q. c. g., m. d.
Lathe, 18"x10' W.-B., g. h., s. p. d.
Lathe, 20"x10' Hendey, g. h., m. d.
Lathe, 20"x12' Hendey, tie bar.
Lathe, 20"x 8' Hendey, tie bar.
Lathe, 24"x12' Boye & Emmes, q.c.g.
Lathe, 30"x12' Boye & Emmes, q.c.g.
Lathe, 34"x12' LeBlond, triple grd.
Miller, No. 1 Knight drilling.
Miller, No. 1 Bickett hand.
Miller, No. 1½ American plain.
Motor, 5 h. p. Wagner, 220-1-60.
Pipe machine, ½" to 2" Williams.
Pipe machine, 8" Cox, cap. 2½" to 8".
Pipe machine, Merrill, 2½" to 12".
Planer, 24"x24"x12' Gray, 1 head.
Planer, 36"x36"x8' Cincinnati, 1 hd.
Planer, 48"x48"x12' Betts, 3 heads.
Press, No. 4 Toledo, o. b. i., grd.
Press, No. 20 Bliss, o. b. i., flywheel.
Press, No. 4 Bliss, Stiles type.
Press, 30-ton Lucas forcing.
Press, Ferracute DD2, o. b. i., cam.
Press, No. 54 Toledo trimming.
Punch, Royersford d. e., cap. 1"x1½", arch. jaw, 18" throat.
Punch, Wickes, 48" thrt., cap. 1½"x1".
Radial drills, 4' & 5' Prentice plain.
Saws, No. 5 Marvel high spd., 6x6, (2).
Saw, American metal swing, m. d.
Shaper, 24" Cincinnati, b. g. crank.
Tapper, ½" Webster & Perks, 1-spdl.
Tapper, 1½ Webster & Perks, 2-spd.

Our warehouse is full of bargains. What have you for sale?

FOR SALE BY

Mid-West Machine Tool & Supply Co., Davenport, Iowa

High-Grade Production Equipment Priced to Sell.

Automatic, ⅞"-1⅛" Cleveland.
Automatics, full, No. 2, No. 0 and No. 00 Brown & Sharpe.
Boring mill, No. 2 Rockford horiz.
Drill, 1-S Garvin duplex.
Drill, 4-spindle Rockford, p. f.
Drills, 4-spdl., 12" and 14" L. & G.
Drills, 6-spindle Allen, h. s.
Gear cutter, 4" Waltham, (new).
Gear tooth rounder, 12" Ingle.
Grinder, No. 10 B. & S. plain.
Grinder, 10x36 Norton.
Grinders, surface, Nos. 20 and 22, Heald rotary.
Hobber, No. 4 Adams.
Hobbers, Nos. 3 & 12 B. & C.
Miller, No. 2B B. & S. pl., s. p. d.
Miller, No. 13-B B. & S., production.
Planer, 60" Pond.
Radial, 4' American sensitive.
Radial, 4' Mueller.
Screw machines, No. 2 B. & S., p. f.
Turret lathe, 1¼" Acme.

Partial list; send us your inquiries.

FOR SALE BY

Tuber, Velick & Co., Inc., - - 628-630 W. Lake St., Chicago, Ill.
Telephones: Monroe 4199-6813. No Branches

PUNCH PRESSES.

No. 0 V. & O.
No. 2 Rockford.
No. 3 Niagara, (3).
18-C Bliss.
No. 19 Bliss.
Swaine geared, (2).

DRILL PRESSES.

20" b. g., p. f., new, $130.
20" drill presses (40), each $40.
30" Reed-Prentice.
Bench type drills.
3½' Bickford radial.
3' American radial.
4' Ryerson radial.

MILLING MACHINES.

No. 2 Cleveland universal, s. p. dr.
No. 2 Rockford plain.
Cincinnati 3-S, s. p. drive.
A number of hand millers.

LATHES.

16"x 6' Sidney, q. c., (2).
16"x 8' Monarch, q. c.
17"x 9' Chard, q. c., (9).
18"x 6' Lehmann, q. c., (2).
24"x10' Canadian, q. c., d. b. g., (3).
22"x10' Cisco, q. c.
24"x10' LeBlond, extra turret att.
10", 12" and 14" Shepard screw cutting, quick change.

PLANERS.

30"x30"x12' Niles-B.-P., 2 heads.
36"x36"x 7' Flather, 2 heads.

SCREW MACHINES.

B. & S. No. 00 automatics serials 2100 to 4300.
No. 2 Smith, hand.
Pratt & Whitney, hand, (3).

GRINDERS.

Emery grinders, $2 and up.

WOOD-WORKING MACHINERY.

Boring mills, Andrew, (3).
Moulders, 8" Yates C-4, (2).
Shapers, Advance dbl. spdl., 5 h. p., a. c. motor in base, (6).
Saw tenoners, Pettingell.
Shapers, double spindle, Whitney and Fay.
Swing saws, Porter, (4).
Saw table and jointer combined, portable.

MISCELLANEOUS.

Boring mill, 36" Colburn.
Hack saws.
Motors, 75 h. p. G. E., a. c., slip ring, 600 r. p. m., (2).
Motors, a. c. and d. c.
Pressed steel hangers and bearings, all sizes.
Pressed steel bench legs, (1,000).
Pressed steel stools, with backs.
Saw mandrels, $3.
Shapers, Ohio 24", (2).
Shaper, 15" American, b. g.
Shear, No. 196 Niagara, 8', power.
Shears, sqr., Streine 3', new, power.
Spot welder, 12" Winfield.
Spot welder, 48" Toledo, 40 k. w., 220 volt, 3 phase.
Thread hobber, Pratt & Whitney.
Time clocks, International.
Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

FOR SALE BY

Taylor-Hall Welding Corporation, 3 May St., Worcester, Mass.

BUTT AND SPOT WELDERS.

Guaranteed to be in perfect condition.

One Thomson 75 p. a. spot welder.
One Toledo 110 spot welder.
One Thomson 40-A butt welder.
One Thomson 20-A butt welder, new.
One Toledo No. 3 butt welder.
One Thomson 2A butt welder.
One Thomson 2A auto. butt welder.
One Thomson 80A butt welder.
One Thomson 5-A butt welder.

Many Others.

FOR SALE BY

J. P. Rentschler & Co., - 6722 N. Maplewood Ave., Chicago

Hammer, drop, 200 lb. Bliss, 4-poppet, with flanged pulley and shaft.
Presses, Bliss No. 52 straight side, 1½" stroke, f. w. type, (2).
Presses, R. & K. and Consolidated No. 3, f. w. type, 2½" & 4" stroke.
Presses, Ferracute Nos. C-5, S-51 and C-92, all f. w. type.
Press, Walsh No. 5½ combination geared and f. w. type, 3" stroke.
Press, Walsh, 36" double crank, 3" stroke, f. w. type, 12000 lbs.
Presses, Toledo No. 51 arch., one f. w. type, one geared type.
Press, Bliss No. 1½ toggle drawing, draw & lift out up to 4".
Seamers, McDonald No. 12 automatics, double, with attachments.
Shapers, Stockbridge 24", 1½" Gridley auto; Bardons & Oliver No. 3.
Thread rolling machine, Bliss No. 123, for heavy material, wgt. 3700 lbs.
Many other bargains. Send us your inquiries. Lowest prices.

FOR SALE BY

Cincinnati Machinery & Supply Co., 215 E. Pearl St., Cincinnati, O.

LATHES.

36"x36' Bridgeford, g. h., q. c. g.
27"x18' Lodge & Shipley, 3 s. c., q.c.
24"x12' Bradford, 3 s. c., q. c.
24"x12' Bradford, l. c. g., taper.
24"x10' American, grd. hd., latest.
17"x 8' LeBlond heavy duty, q. c.
16"x 8' Hendey, yoke hd., q. c.
14"x6' Hendey, yoke hd., q. c.

MILLING MACHINES.

No. 2 Cincinnati vertical, s. p.
No. 2-B hvy. Brown & Sharpe, s. p.
No. 3 LeBlond, cone d. latest type.
No. 3 Kempsmith univ., complete.
No. 2 Garvin duplex.
No. 1 B. & S., 2 hds., planer type.

GEAR CUTTERS AND GRINDERS.

18" Gould & Eberhardt hobber, s p.
18-H Gould & Eberhardt hob., s. p.
No. 1 Adams Farwell hobber.
No. 13 Brown & Sharpe.
Gleason generators, 6", 11", 18".
10"x36" Landis, self-cont., latest.
12"x32" Landis universal.
No. 2 Ohio universal tool and cutter grinder, complete.
No. 3 Ohio universal tool and cutter grinder, complete.
12"x72" Brown & Sharpe plain.
No. 21 Besly disc, 36" complete.
No. 60 Heald grinder with angle.

RADIALS AND UPRIGHT DRILLS.

5' American, cone drive.
5' Hamilton, cone drive.
3½' Cincinnati Bickford, gear b. d.
2½' Gang, tapping att., g. b. d.
28" Cincinnati cone drive.
26" Rockford, latest, b. g., p. f.
20" Barnes, 4-spindle gang.
No. 2 Minster Junior, hvy. duty.

PLANERS AND SHAPERS.

24" Cincinnati, crank, cone drive.
20" Kelly crank shaper, back geared.
24" Hendey, friction geared.
26"x26"x7' Gray, one head.
36"x36"x10' Cincinnati, 2 heads.
96"x72"x24' Detrick & H., o. s.
42"x42"x16' Cleveland, 3 hds., o. s.
60"x60"x20' Cincinnati, 3 hds.

MISCELLANEOUS.

Bolt cutter, 1" Landis, dbl. hd.
Bolt cutter, 1" Acme, class A.
Boring mill, 51" Niles-Bement-Pond vertical, two heads.
Brake, box, 42" Dreis & Krump.
Punch & sh., 1" No 4 New Doty.
Punch & shear, No. 57 Beloit.

Write for prices and latest catalog.

FOR SALE BY

McMullen Machinery Company, - - Grand Rapids, Mich.

Automatics, ⅞" Cleveland, (2).
Band saw, Napier, metal.
Cut-off machine, Waterbury-Farrel.
Cut-off saw, No. 4 N. & B.
Grinder, Gisholt tool.
Grinder, No. 6-A Bryant.
Lathe, 2½x26 Greenlee flat turret.
Lathe, 9" Porter-Cable.
Miller, No. 2-H Becker vertical.
Millers, No. 25 Becker plain, (2).
Pipe machine, 6" Merrill No. 6½.
Press, Chicago scrap baler.
Press, No. 3 Manville, dbl. acting.
Welder, No. 10-A Thomson.

Ask for complete list.

FOR SALE BY

M. A. Wertman Machinery Co., 429 Penton Bldg., Cleveland, Ohio

Bolt cutters, National 1½" sgl., (2).
Broach, hydraulic, No. 3 J. N. LaPointe.
Butt welder, Cream City, ⅜" cap.
Drill, 10" Rockford bench, new.
Drill, Detroit 5-spindle.
Drill, National Acme 6-spindle.
Drill, No. 12 Natco 6-spindle.
Grinder, Fitchburg 6"x20" model A.
Grinder, Badger, double disc auto.
Lathe, Monarch 14"x6", q.c.g., d.b.g.
Lathe, Monarch 14x6, l. c. g.
Miller, Kempsmith No. 2 plain maximiller.
Miller, duplex, Garvin No. 1½.
Press, No. 69 Stoll s. s. A No. 1.

Die heads and collapsible taps, Namco and Geometric 1½" to 6".

FOR SALE BY

Clinton Machinery Co., - 128 So. Clinton St., Chicago, Ill.

MILLING MACHINES.

No. 3H LeBlond univ., fully equipt.
No. 3 Ohio plain.
No. 3 Cincinnati plain.
No. 20 Van Norman duplex, compl.
No. 2AU Garvin univ., fully equipt.
No. 2BS Kearney & Trecker univ., with vert. hd., rotary tbl. & d. h.
No. 3½ Fox, power feed.
No. 00 Brown & Sharpe, hand miller.
No. 0 Bristol, ball bearing.

LATHES.

18"x12' Boye & Emmes, l.c.g., taper attach., chucks.
16"x 8' Prentice, q. c. g., complete.
16"x 6' Canedy-Otto, s. q. c. compl.
14"x6' Monarch, q.c.g .d.b g., comp.
14"x 6' Hendey, q.c.g., taper att., (2)
14"x 7' South Bend, complete.
10"x 5' Seneca Falls, col. & draw-in.
7"x30" new and used Dalton bench.
Hardinge and Rivett bench lathe.

DRILLS AND PUNCH PRESSES.

16" Kokomo, high speed, gear box.
20" Rockford, b.g., p.f., w & l.fd., (3).
20" New Excelsior, b.g., p.f., w.l.fd. (3)
14" Leland & Giff., h.s., b.b., ⅜" cap.
4 and 6-sp. Avey. h. s., b. b., ⅞" cap.
4-spindle H. & W., h. s., b. b., (2).
Knight drilling and milling mche.
26" Barnes, b.g., s. h., with tap. att.
4-spindle Barnes, gang drills, (2).
2-spindle Foote-Burt.
3-spindle Barnes gang drill.
No. 00 Verson bench presses, (2).
No. 1 Consolidated, o. b. i.
No. 2 American Can, o. b. i.
No. 3 American Can, o. b. i.
No. 3 Consolidated, o. b. i., b. g.
No. 4 American Can, o. b. i., (2).
No. 4 Consolidated, o. b. i., 5" str.
No. 5½ Walsh, o. b. i.
No. 64A Consolidated, s. s., 8" str.
No. 83 Consolidated, adj. table.
No. 50 Perkins, o. b. i., b. g.

SHAPERS

16" Ohio, h. d., b. g., crank.
20" Rockford, b. g., like new, crank.
21" Smith & Mills, b. g., crank.
24" Smith & Mills, crank.

SCREW MACHINES.

No. 1 Foster, wire feed and collets.
No. 1 Bardons & O., wire fd., collets.
No. 1 Warner & S., wire fd., collets.
No. 4 Warner & S., p. f. to cut-off.

MISCELLANEOUS.

Grinder, surface W. & M., with magnetic chuck and generator.
Hack saws, Nos. 1 & 2 Marvel.
Keyseaters, Nos. 1 & 2 Davis.
Oil separators, motor driven.
Motor, 75 h. p. General Electric slip ring, 1200 r. p. m., 3 ph., 60 cy.
Punch and shear Scully single end, 22" throat, arch. jaw & shear'g att.
Riveter, No. 2A High Speed.

FOR SALE BY

The Selfreat-Elstad Machinery Co., - - - Dayton, Ohio
Branches at Cincinnati and Columbus

Drill, Moline No. 8-D, 10′ rail, 26 No. 14 style D heads, 99% new.....$1,500.
Drill, Moline No. 7-D, with 4 No. 36 heads, 95% new..... 1,000.
Engraving machine, Keller No. E-3, 90% new..... 1 000.

FOR SALE BY

The Akron Equipment Company, - - Akron, Ohio

Automatic, 4-spindle, 1¼ capacity Acme, serial 9201.....$ 475.
Engine lathe, Fitchburg, 13″x6′, not screw cutting, chuck..... 55.
Engine lathe, Blaisdell, 14″x6′, c. s., c. r., taper att., chuck..... 95.
Engine lathe, Fish, 39″x23′, raising blocks to 46″, c. s., c. r., and extra rest at rear, chuck jaws..... 1050.
Threading machine, 2-spindle, 1″ capacity, National Acme..... 125.

FOR SALE BY

P. Pettler & Son, Beaver Falls, Penna. (Pittsburgh District)

GRINDERS

16″x48″ Landis crank grinder.
12″x52″ Landis plain self-contained grinders, (3).

LATHES

Chard 18″x8-9-11′ bed, semi-quick change gear, 3-step cone drive, (12).
Putnam 26″x12′ bed, semi quick-change gear, 3-step cone drive, (2).

FOR SALE BY

Brown Machinery Co., - - 2323 N. 9th St., St. Louis, Mo.

Beaders, No. 8 Pettingell, 42″ thrt.
Blowers, Nos. 7 & 9 Sturtevant.
Buffer, Hisey, 3 h.p., 3-p., 60 c., 220 v.
Compressor, steam drive, Norwalk 20x20x13x24, 960 cubic feet.
Cut-off mchs., Nutter & Barnes.
Drill, bench, No. 1 Langelier.
Drill, 14″ United States.
Drill, 20″ Canedy-Otto, b. g., p. f.
Drill, 24″ Aurora b. g., p. f. t. a.
Drill, 25″ Superior, sliding head.
Drill, Baush No. 3, 26-spindle.
Drill, No. 2 Barnes horiz. radial.
Furnaces, Nos. 1 and 2 American.
Gear cutter. No. 3 B. & S., 36x8″.
Grinders, emery, St. Louis & Western, 100 new at 50% discount.
Grinders, drill, W. & M. American.
Grinders, tool, Diamond.
Grinders, tool post, U. S. & Hisey.
Grinders, plain, No. 12 B. & S.; 10x36″ Norton; 5x18″ Ott.
Grinder, cylinder, No. 60 Heald.
Grinders, disk, No. 6 Besly; No. 14 Gardner.
Grinder, universal, No. 12 B. & S.
Grinder, 30″ Diamond, roll or spdl.
Hammer, size A United, 50 lbs., m.d.
Hammer, drop, No. 3 W.-W.
Hammer, helve, 40 lb. Bradley.
Keyseater, No. 2 Davis.
Lathe, 26″x10′ Whitcomb-B., q. c. g.
Lathe, 20″x 8′ Reed, s. b. g.
Lathe, 29″x 8′ Lodge & S., q. c. g.
Lathe, 17″x 6′ Cincinnati.
Lathes, 16″x8′ Monarch, q. c. g.
Lathe, 16″x 7′ Lehmann, q. c. g.
Lathes, 16″x6′ Monarch, q. c. g.
Lathe, turret, 16″ Gisholt.
Lathe, turret, No. 4 Wood, b. g., p. f. to turret.
Motors, 1, 3, 5, 7½, 10, 15, 25 h. p., 3-ph., 60 cy., 220 v.
Miller, No. 00 Brown & Sharpe.
Miller, No. 6 Whitney hand.
Miller, No. 4 Garvin plain.
Miller, No. 5A P & J., with chks.
Planers, 60″x60″x20′ Niles, 3 heads.
Polishers, drop head, New Britain.
Press, No. 5 Stiles & Parker, grd.
Press, Bliss pattern, o. b. i.
Riveter, ½″ Adt.
Screw machine, 1″ Pratt & Whitney.
Shapers, 24″ L & D.; 24″ S. & S.
Shear, rotary, No. 13 Pettingell.
Shear, rotary splitting, No. 134 Marshalltown, 4′ throat, ⅜″ cap.
Tapping machines, Garvin; Burke C.

Full Line of P. S. & W. Sheet Metalworking Machinery.

FOR SALE BY

F. W. Burns Machinery Co., - Sattley Bldg., Racine, Wis.

PUNCH PRESSES.

No. 1½ Bliss toggle drawing.
No. 64-A Consolidated, f. w. type.
No. 51 Toledo arch press, geared.
No. 83 Consolidated, adjustable tbl.
No. 60½ Bliss rack and pinion.
No. 30 Cameron arch press, f.w. type.
No. 10 Excelsior, 20" throat.
No. 56 Beloit punch & shear.

AUTOMATICS

2" & 2½" Cleveland, model A.
No. 2-G. Brown & Sharpe, 1" cap.
No. 3 Acme screw slotter.
No. 1 Brown & Sharpe screw mche.
No. 4 Warner & Swasey, power feed.
No 3 Bardons & Oliver.
¾" Geometric threaders, (3).

LATHES.

16"x 8' Hamilton, q. c.
20"x10' Bradford, q. c.
18"x8' Lodge & Shipley pat. hd., q.c.
9"x14" Porter-Cable.
20"x18' Pond.
15"x 8' South Bend, loose change.
22" Pryibil spinning lathes.

MISCELLANEOUS.

Blowers, rotary, No. 1 and No. 2 American Gas.
Bolt threader, 1½" Acme.
Drill press, Kerns 6-spindle 16", h. s., b. b.
Engraving mach., No. 1-A Gorton.
Forging machine, No. 1½ Ajax.
Gear cutter, No. 13 Brown & S.
Grinder, Detroit centerless.
Grinders, No. 1½ Landis universal.
Grinder, No. 70 Heald.
Miller, No. 1 Garvin universal.
Miller, No. 3 Burke hand.
Nailing machine, Doig 8 track.
Planer, Gorton No. 10-F 58"x58"x14', two heads on rail. two side heads; brand new, bargain.
Riveting hammer, No. 6-B H. S. ⅝".
Sander, 42" Berlin three-drum.
Shapers, 24" Potter & Johnston.
Welder, butt, No. 20-A-10 Thomson, new, bargain.

FOR SALE BY

Carlson Machinery Co., Inc., - - - Davenport, Iowa

BORING MACHINE.

No. 3-A Universal horizontal boring machine, 3" bar; very desirable mche.

GRINDERS

10x20 Landis universal.
6x32" Norton plain.
No. 65 Heald cylinder.
24" Norton snagging.
14" Blount wet tool.
No. 8 Besly disc.
No. 14 Besly disc.
No. 2 Oakley univ. tool & cutter.
Grand Rapids Yankee twist drill.

LATHES

13"x5' Sheppard, geared hd., q. c.
15"x6' Rockford semi, q. c.
18"x8' Lodge & Shipley.
3½x60 Lo-Swing.
14"x6' Hendey, geared head, q. c., taper attach., draw in attach.
14"x6' Hendey, yoke head, q. c., relieving attach., draw-in attach.

DRILL PRESSES.

20" Silver, b. g.
21" Canedy-Otto, b. g., power feed.
36" New Haven, sliding head.
¾" Sipp, ball bearing, 8" overhang.
25" Snyder, sliding head, with t. a.
36" G. & E. sliding head.

MILLERS

No. 1 Rockford plain.
No. 1½ Cincinnati universal.
No. 2B Brown & Sharpe pl., s. p. d.
No. 34 Ohio plain, dividing head.

TURRET LATHES.

No. 4 Warner & Swasey plain.
No. 6 W. & S., p. f. to car. & turret.

SHAPERS AND PLANERS.

16" Smith & Mills.
20" Smith & Mills.
20" Cincinnati.
24x24x7 Powell.

MISCELLANEOUS

Boring mche., No. 2 Rockford horiz.
Brake, 72" Peck, Stow & Wilcox.
Gear hobber, No. 12 Barber-Colman.
Gear hobber, 24" Schuchardt & S.
Gear hobber, 72x20" Cincinnati.
Hammer, No. 3-A High Spd., m. d.
Press, No. 29 Swaine, o. b. i.
Press, No. 4 Toledo, o. b. i.
Press, No. 5 Toledo, o. b. i.

FOR SALE BY

United Mchry. & Supply Co., 4640 Newberry Ave., St. Louis, Mo.

Lathe, New Haven triple geared 50"x12'.
Miller, American plain No. 1½, quick change feeds.....$425.
Pneumatic hammer, Williams & White 150 lb.
Punch, No. 7 Ryerson-Kling 60" throat, 1¼" thru 1" with spacing table, duplicating device.
Wheel press, Niles-Bement-Pond 150 ton, new..... 985.

FOR SALE BY

The Central-West Machinery Co. 116-118 E. Water St., Cincinnati, O.

Drill, 20" Aurora, p. f., b. g...$ 80.
Drill, 20" Aurora, tap. att..... 85.
Drill, radial, 3' Mueller..... 250.
Grinder, 10"x30" Landis..... 125.
Grinder, No. 60 Heald, cylinder 350.
Hobber, No. 3 Farwell, 12x36" 450.
Lathe, 11x4 Shepard, q. c ,new 110.
Lathe, 14"x8' Steptoe q. c..... 300.
Lathe, 14"x12' Carroll & J..... 175.
Lathe, 16 x8' Cincinnati, q. c..$ 325.
Lathe, 18"x12' LeBlond, chk.... 250.
Miller, No. 3 pl., Kempsmith, all geared feeds..... 600.
Planer, 26x26x14 Lodge & D.. 250.
Planer, 30x30x16 Gray, 2 hds.. 1000.
Turret lathe, No. 4 Milholland 325.
Tur. lathe, with wire fd. & col. 365.
Turret lathe, 3x36 J. & L. bar.. 450.

FOR SALE BY

Fitzsimmons & Cole Machinery Company

1208 House Building, • • • Pittsburgh, Pa.

Air compressor, 9x8, Ing. R. ER-1 173'.
Air compressor, Ingersoll 10x10, 150'.
Bolt cutters, 1¾", 2", 2½", 4" Landis.
Boring mill, 30" Colburn, m. d.
Boring mill, 42" Bullard, b. d.
Boring mill, 72" Bickford, b. d.
Boring mill, 84" Pond, 2 hds., b. d.
Bulldozer, No. 25 W. & W., m. d.
Drill, radial, 6' Prentice, s. p. d.
Drill, 14" Hamilton upright, b. d.
Drill, 24" Cinti. upright, sliding hd.
Flanger, McCabe, ½" capacity.
Gear cutters, spur and bevel.
Gear planer, 24" Gleason, bevel, b. d.
Grinder, 16"x68" Landis, crankshaft.
Grinder, No. 16 Blanchard.
Hammer, 50 lb. Mayer, upright.
Hammer, Yeakley pneumatic, 150 lb.
Hammer, 200 lb. Beaudry, upright.
Hammer, 100 lb. Bradley, upright.
Hammers, 2-B, 3-B, 4-B & 4-N Nazel.
Hammer, st. forging, 1250 lb. Morgan
Header, 2" National rivet.
Keyseater, No. 0 Mitts & Merrill.
Keyseater, No. 2 Mitts & Merrill.
Lathe, 16"x8' American, q. c. g., t.a.
Lathe, axle, Bridgeford, dbl. hd., m.d.
Lathe, car wheel, 42" Niles, d. c., m. d.
Miller, plain, No. 3-B Brown & S.
Miller, plain, No. 5 B. & S., b. d.
Miller, slab, 24x20x14' Ingersoll.
Pipe machine, 12" Jarecki, b. d.
Planer, 36"x36"x10' Cincinnati, 2 hds.
Planer, 48"x48"x16' Pond, 4 hds., b.d.
Planer, 96"x96"x20' Pond, 4 hds., m.d.
Planer, o. s., Cleveland, 36"x36"x16'.
Planer, o. s., Cleveland, 48"x48"x12'.
Planer, o. s. Cleveland 48"x48"x20'.
Planer, rotary, No. 2 Cleve., 48" hd.
Press, Ferracute P-1, 1½" stroke.
Press, No. 37½ Bliss, s. s., 6" stroke.
Press, toggle, No. 1½ Bliss.
Press, wheel, 400-ton Niles.
Press, forging, 500-ton United, hyd.
Punch, hor., Cleveland, 1" thru 1".
Punch & s., 30" thr., L. & A. 1¼" thru 1".
Punch & s., Pels comb., 1¾" thru 1".
Riveter, Hanna, 18" thrt., 15" gap.
Riveter, Allen, 66" throat, 15" gap.
Riveter, stake, No. 6 Whiting 48" thrt.
Rolls, angle bending, 6x6x¾" K. & R.
Rolls, bending, H. & J. 10'x¼", m. d.
Sand blast, MacLeod, 36"x36".
Saw, cold, 20" Higley.
Shaper, 20" Cincinnati, b. g., b. d.
Shaper, 24" Gould & Eberhardt, b.d.
Shear, angle, H. & J., cap. 6"x6"x1".
Shear, bevel, Lenox ¾".
Shear, guil., No. 3 H. & J., cap. 2½" sq.
Shear, alligator, Lewis, 1¾" square.
Shear, rot., No. 110½ Bliss, 3/16" cap.
Shear, rotary No. 3 Quickwork, ½" capacity m. d.
Shear, rotary, No. 6 Quickwork, ¾".
Shear, squar. 12'x¼" Streine, m d.
Shear, squar. 10'x¼" Cincinnati, m. d.
Shear, squar. 7'x¼" Canton, b. d.
Shear, 36"x3/16" Cincinnati, m. d.
Straightener, bar, No. 3 K. & R.
Straightener, beam, No. 4 H & J.
Straightening rolls, 42" cap., 12 ga.
Testing machine, 100,000 lbs. Riehle.
Upsetters, 1½" to 5".

FOR SALE BY

J. E. Haetten & Co., Inc., - 50 Church St., New York, N. Y.

Automatic, No. 23 New Britain, chucks and tools, etc.	$1400.
Automatic, 5" Goss-DeLeeuw, chucks and tools	2250.
Automatic, No. 00 Brown & S., with high speed, high serials, (2), ea.	750.
Automatic, 5¾" model H Cleveland, (2), each	700.
Boring mill, No. 31 Lucas horizontal, 3 bars	2100.
Boring mill, 84" Betts vertical, arranged for motor	2800.
Boring mill, 96" Pond vertical, arranged for motor	2750.
Bolt cutter, 1¾" Acme double spindle, no dies	250.
Box nailing machine, 12 nails, 10 D, 36" range, used 4 months	500.
Broach, No. 1½ American broach machines, 8-broaches, new	500.
Drill, 5' Western plain radial, 16 speeds, table	500.
Forging machine, 1" Acme cast iron, stop motion	800.
Grinder, 14x36 Pratt & Whitney surface, new, 10x32 mag. chuck	450.
Hammer, 200 lb. Gould & Eberhardt, sheave lift	280.
Hammer, 1400 lb. Billings & Spencer, board drop	900.
Lathe, 24x12 American, quick change gears, taper, serial 46000	1500.
Lathe, 7x36 Ames precision, brand new, c. r., c. s.	200.
Lathe, 12x6 Reed, l. b. g., leg, A1	175.
Lathe, 25-44x8' Harrington, sliding bed	800.
Miller, No. 6 Becker vertical, latest type, serial M 1157	1200.
Planer, 30x30x7' 6 New Haven planer, 1 head	250.
Press, No. 37½ Bliss, new, flywheel—6" stroke	650.
Shear, 8'x3/16 Niagara, 16" gap squaring shear, geared	850.
Shear, 10'x14 ga. Ohl power squaring	750.
Turret lathe, 1½ B. & O., hand feed, A1	250.
Turret lathes, 1" Pratt & Whitney, hand operate, (2) each	250.
Turret lathe, 28" Gisholt 6¾" spindle bore	500.
Turret lathe, 2¾"x26" Cincinnati Acme, cross feed turret	250.

We are ready now to release the following machine tool equipment from our plant, due to the purchase of new equipment in some instances and change of method in others, which leaves these excellent machine tools available for sale.

1—10"x72" Brown & S. plain cylindrical grinder, standard regular equipment, excellent condition	$1200.
1—Fitchburg 6"x20" plain cylindrical grinder, will accommodate a 6" face grinding wheel, condition good	350.
1—Rockford horizontal boring, drilling and milling machine, price	300.
1—J. N. LaPointe No. 2 screw feed broaching machine, price	250.
1—No. 5-P Becker vertical milling machine, price	450.
1—Schuchardt & Schutte gear tooth rounder, price	50.
1—No. 14 Higley cold cut-off saw with saw grinder, price	85.

USED EQUIPMENT

1—36"x36"x20' Hamilton Planer (2 heads on cross rail)	$1000.
1—24"x24"x12' Whitcomb second belt planer (2 hds. on cross rail)	1600.
1—32"x26"x16' Whitcomb second belt planer (2 hds. on cross rail)	2000.
2—8"x60" Low-swing lathes with tailstock, single carriage, each	500.
1—No. 0 Bristol hand miller	50.
1—Pratt & Whitney Lincoln type automatic miller	250.

Monarch Machine Tool Co., Sidney, OHIO

$50,000 Worth of

NEW GEOMETRIC DIE HEADS

COLLAPSIBLE TAPS, ADJUSTABLE HOLLOW MILLS AND JARVIS TAPPING ATTACHMENTS

AT 50% DISCOUNT FROM LIST

SUBJECT TO PRIOR SALE—ALL IN ORIGINAL PACKAGES

STYLE D HEAD

Quantity	Size inch	List Price	Our Price
4	1¼	$70.	$35.00
7	1½	80.	40.00

STYLE DD HEAD

Quantity	Size inch	List Price	Our Price
39	5/16	$45.	$22.50
48	7/16	55.	27.50
53	¾	70.	35.00
62	1	85.	42.50
28	1¼	100.	50.00

SOLID ADJUSTABLE

Quantity	Size inch	List Price	Our Price
9	9/16	$33.	$16.50
24	¾	41.	20.50
23	1	60.	30.00

Several B. & S. solid adjustable 5/16-9/16-¾ and one—¾ special taper die head-all at 50% off. 2—C Heads 1 and 1¼; same discount.

JARVIS TAPPING ATTACHMENT

Quantity	Size inch	List Price	Our Price
7	No. 4M	$100.	$50.00
2	No. 4N	200.	100.00

STYLE DD HEAD

For Warner & Swasey

Quantity	Size inch	List Price	Our Price
(2A) 4	2	$140.	$70.00
(3A) 12	2	140.	70.00

HOLLOW MILLS

(Adjustable)

Quantity	Size inch	List Price	Our Price
16	7/16	$25.	$12.50
16	¾	35.	17.50
17	1¼	45.	22.50

NL COLLAPSIBLE TAPS

Quantity	Size inch	List Price	Our Price
12	1½	$60.	$30 00
13	2	70.	35 00
11	2½	85.	42.50
6	3	95.	47.50

ALL DIE HEADS, TAPS, MILLS and TAPPING ATTACHMENTS HAVE STANDARD SHANKS

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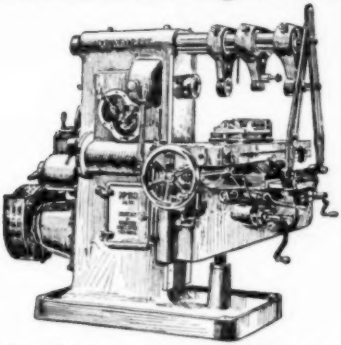

We have left a few of these excellent investments in the styles listed below. Every machine has been completely disassembled, re-scraped, and new parts put in wherever necessary. A K & T rebuilt is thoroughly tested and carries the same accuracy guarantee as a new machine. The demand exceeds the supply. Better write at once.

MACHINES AVAILABLE

No. 1B Plain
No. 2BS Universal
No. 2A Manufacturing
No. 2B Plain
No. 3B Plain
No. 3B Universal
No. 4B Plain
No. 2B Vertical
No. 3B Vertical

SUBJECT TO PRIOR SALE

Address: Rebuilding Department

MILWAUKEE MILLING MACHINES

KEARNEY & TRECKER

CORPORATION

5926 National Ave., Milwaukee, Wisconsin

If Listed Here—It's Good Machinery

Prices are "Right"

MILLING MACHINES
1—Becker No. 7 duplex.
2—Milwaukee No. 2-B univ.
2—Hendey No. 1 universal.
3—Cincinnati Nos. 1½ & 2 Universal.
7—B. & S. Nos. 3A & 2 Universal.
4—Briggs "B" plain miller.
2—Rockford No. 1½, No. 2.
4—Cinti. Nos. 2, 3 & 4 pl., cone dr.
1—B. & S. Nos. 2, 2B, 3B, 4 plain.
1—B. & S. No. 13-B plain.
1—Milwaukee No. 1½B vert.
2—Taylor & Fenn vertical.
11—Becker Nos. 4B, 2B, 5C, C vert.
9—P. & W. 4½x12, 6x48, 6x80 thread.
4—Lees Bradner Nos. 4, 6 thread.
25—P. & W. No. 5 auto.
30—P. & W. No. 4 spline.

GEAR CUTTERS
5—Barber-Colman No. 12.
7—B. & S. 3x36, 3x26, 4x36.
3—G. & E. No. 18-H.
2—G. & E. No. 36-ST, 3 and 4 spindle gear roughers.
1—G. & E. 34" comb. spur & bevel gear cutters.
20—Fellows Nos. 6, 61, 615.
20—Gleason bevel, 6", 11", 18".

BORING MILLS
1—Niles-B-P 60" duplex.
1—Bullard 61" Maxi-mill, m. d.
1—Bullard 24" rapid prod.
1—Cleveland No. 1 horizontal.
1—Colburn 54", 2 swivel heads.
1—Ridgeway 84" vertical, 2 heads..

SCREW MACHINES—Automatic
16—B. & S. Nos. 0, 2, 2G full auto.
14—Gridley 4-spindle. ¾", 1¼", 1¼", 7/16", 2⅜", 2¾".
2—Gridley 4⅝", 3½" s. s.
3—Cleveland ⅝"-¾", ⅞", 1¼", 2", 2¼", 7¾" "A".
1—Cleveland ⅝-¾", ⅞", 1¼" "B".
1—New Britain 1⅛x7 bar.
8—New Britain No. 24.
2—National Acme Nos. 52, 54.

DRILLS—Multiple Spindle
1—Natco No. 14.
2—Baush No. 2, 24-spindle.
1—Moline No 5-D, 6-spindle.
12—P. & W. Nos. 11, 12, 13.

DRILLS—Upright and Radial
2—Colburn Nos. 2 and 4.
1—P. & W. No. 1 gun barrel.
2—New Turner No. 3 vertical.
6—Baker No. 310 and 314.
6—Cincinnati 24" sliding head.
1—American 4' univ. radial.
1—Baush 6' radial.
1—Niles-Bement-Pond 96" Ridgeway, m. d. pl. rad.

GRINDERS
1—Queen City 14x72 plain.
7—Norton 6x32, 10x36, 18x96.
4—B. & S. No. 11, 10 plain.
4—Cincinnati No. 2, 12x36.
1—Springfield 12x12x48 vertical.
1—Persons & Arter 12" surface.
2—Landis 14x48; 16x48 crank.
1—Fitchburg 12x54.
11—Bryant No. 20 chucking.
2—Bryant No. 15, dbl. spindle.
28—Heald Nos. 65, 60 and 70.
1—Van Norman No. 34.
2—Gidding & L. No. 12 teromatics.

LATHES
4—Seneca Falls 12x6, q. c. g.
3—Davis 12"x8', q. c. g.
5—American 14x6, 16x8, s. p. d.
1—Hendey 16x8.
10—New South Bend 15x5, 18x8 gap.
2—Mueller 18x8, q. c. g.
1—American 18x10, s. p. d.
1—LeBlond No. 6 multi-cut.
3—LeBlond 26x10 duplex crank.
1—Bridgeford 26x12', q. c. g.
1—Greaves-Klusman 28x10.
1—Johnson 30x12, motor drive.
1—Bridgeford 32x26', geared head., s. p. d. or m. d.
1—Bridgeford 48x60', hvy. duty, grd. hd., dbl. carriage, arr. for m. d.
2—LoSwing 3½x84, 2 car. New Star Lathes, all sizes, with all att.

PLANERS
7—Putnam 26x26x 8', 2 heads.
1—Gray 38x38x20', 3 heads.
1—Putnam 48x48x12', 2 heads.

SHAPERS AND SLOTTERS
2—Stockbridge 16", 24".
2—Smith & Mills 16", 20".

25—HENDEY 12"x5' and 6' Q. C. G. Lathes
6—CINCINNATI 24" sliding head Drill Presses
5—BRIDGEFORD 42"x35' geared head Lathes

MOREY AND CO. INC. 408 Broome St., NEW YORK, N. Y.

The largest selection of High Grade Machine Tools in the country. All guaranteed. *Users everywhere find them*

ECONOMICAL

LATHES

1—56"-64"x18' Johnston.
1—51"x20' LeBlond.
4—36"x30' Pittsburgh Geared Hd.
1—30"-34"x12 L. & S. Sel. Hd.
1—28"x16' Bridgeford.
21—26"x10' Canada,
12—25"x12' LeBlond.
1—24"x12' Reed Prentice Grd. Hd.
9—24"x11' Cisco.
10—21"x10' LeBlond.
1—20"x16' American Geared Head.
2—20"x 8' LeBlond.
1—16"x 8' American Gd. Hd.
1—16"x 8' Monarch.
3—16"x 6' Walcott.
2—14"x 8' Pratt & Whitney.
2—14"x 8' Carroll-Jamieson.
2—14"x 6' Carroll-Jamieson.

MILLERS

2—No. 6 Becker Vertical.
1—No. 5-C Becker Vertical.
5—No. 3 Brown & Sharpe Vert.
1—No. 2B Milwaukee Vertical.
2—No. 4-B Becker Vertical.
1—No. 3-B Milwaukee.
3—No. 3 Kempsmith Plain.
1—No. 2-B Hvy. Brown & Sharpe.
1—No. 2 Cincinnati Plain.
1—No. 3-B Milwaukee Universal.
1—No. 2-B Milwaukee Universal.
1—No. 2 Cincinnati Universal.

PLANERS

1—72"x56"x36' Cincinnati.
1—60"x48"x30' Hamilton.
1—42"x42"x22' Niles-Bement-Pond.
3—36"x36"x18' Cincinnati.
1—36"x36"x12' Woodward & P.
1—36"x36"x12' Gray.
1—30"x30"x14' N. B. P.
1—30"x30"x 8' N. B. P.

PRESSES

1—96-G Toledo Double Crank.
2—No. 56 Ferracute.
1—No. 163½ Toledo Toggle.

BORING MILLS—Vertical

5—72" Gisholt.
1—72" Cincinnati.
1—42" Colburn.
1—30" Bullard.
1—24" Bullard Rapid Production.

BORING MILLS—Horizontal

1—No. 1½ Beaman & Smith.
1—No. 1½ Giddings & Lewis.
5—No. 1 Barrett.
6—2" Bar Rockford.

DRILL PRESSES

1—No. 30 Natco.
1—No. 310 Baker.
1—No. 24 Foote-Burt.
1—22" Barnes all geared.
1—20" Leland-Gifford.
10—No. 1-K 8" Henry & Wright.
1—No. 3, 1-spindle Avey.

SLAB MILLERS.

6—24"x24"x12' Ingersoll.
1—24"x24"x 8' Ingersoll.
1—24"x13"x20' Ingersoll.
1—32"x32"x12' Ingersoll.

GRINDERS

4—22" P. & W. Vert. Surf.
1—20"x96" Landis.
3—14"x50" Norton.
3—10"x72" Norton.
3—10"x36" Norton.
6—6"x32" Norton.
1—No. 70 Heald.

Our Guarantee: Your money back if you return a machine within thirty days, freight prepaid.

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Telephone Haymarket 7660 — Cable Address "Remand"

THESE PRICES —

SHAPERS AND PLANERS

20" Smith & Mills, single pulley gear box drive, new	$ 825.
16" American, back geared, good condition	400.
16" Queen City, back geared, good condition	425.
16" Smith & Mills, back geared, good condition	300.
6x6 Pratt & Whitney, motor drive, with motor, good cond.	110.
Morton Draw-Cut Shaper, good condition	385.
No. 6 Fellows Gear Shaper, extra cutters, good cond.	250.
32x32x14' Pond Planer, 2 heads on rail, good condition	985.
24x24x6' Pease Planer, good condition	290.
24x24x6' Gray Planer, good condition	350.

DRILLS

36" Reed-Prentice, pwr. fd., bk. grs., tapp. attach., new	$ 395.
28" Superior, power feed, back gears, sliding head	270.
25" Snyder, power feed, back gears, sliding head	215.
24" Barnes, power feed, sliding head, back gears	175.
22" Aurora, sliding head, back gears, tapping attachment	205.
20" Cincinnati, tapping attachment, good condition	95.
20" Barnes, camel-back, all geared, good condition	135.
20" Aurora, back geared, power feed, tapping attach.	115.
16" Henry & Wright, ball bearing, good condition	99.
8-sp. heavy-duty Fox, 1" in steel, good condition	635.
4-sp. Allen, ball bearing, new	495.
4-sp. 22" Barnes, sliding head, power feed, back gears	480.
3' American Sensitive Radial, excellent condition	160.

MILLING MACHINES

No. 2 Cincinnati Vertical, practically new	$ 680.
No. 4 LeBlond plain, heavy duty, excellent cond.	690.
No. 4 Cincinnati plain, good condition	490.
No. 3 LeBlond plain, heavy-duty, good condition	485.
No. 3 Brown & Sharpe plain, good condition	595.
No. 2 Brown & Sharpe plain, good condition	350.
No. 2 Cincinnati plain, late type, good condition	515.

A. R. Marsh Machinery Company,

For our financial responsibility

"Cut to the Bone"

No. 1½ Ohio plain, good condition	$ 275.
12x48 Cincinnati Automatic, good condition	390.
No. 1 Becker-Brainerd Univ., complete equip., good cond.	325.
No. 3 Garvin Duplex, heavy-duty, good condition	575.

SCREW MACHINES AND TURRET LATHES

3x36 J. & L. 2-spindle, latest type, like new	$ 550.
3x36 J. & L. geared feed, rebuilt, full set of tools, ex. cond.	390.
3x36 J. & L. in good working order	175.
No. 7 B. & O., late number, power feed to turret and cross slide, friction geared head, perfect condition	375.
No. 4 B. & O., power feed to turret slide, friction geared head, excellent condition	285.
No. 2 B. & O., oil pan, pump, full set of tools and collets, good condition	195.
2" Model B Cleveland Automatic, good condition	335.
No. 2 Foster, power feed and back gears, good condition	150.
No. 1 Garvin, new	125.
No. 24 New Britain, 5-spindles, with chucks, like new	1050.
No. 24 New Britain, 5-spindles, without chucks, like new	900.
No. 6 Warner & Swasey, excellent condition	700.
No. 4 Warner & Swasey, like new	595.
No. 4 Warner & Swasey, good condition	490.
No. 4 Warner & Swasey, good condition	425.
No. 6 Foster, power feed to cross and turret, good cond.	285.

BOLT THREADERS

2" Acme, late type; 31 sets chasers; good condition	$ 390.
2-sp. 1½" Morgan, 6 sets new chasers; good condition	275.
2-sp. 1½" Acme, latest type, with lead screws; new die hds.	465.
2-sp. ¾" Acme, good condition	235.
1" Landis, latest type; like new	290.

(*Continued on next Two Pages*)

900 West 73rd St., Cleveland, Ohio

ee Bradstreet's September issue

Greatest Value

(Continued from Preceding Pages)

LATHES

42x12 Gleason, 36" 4-jaw chuck, good condition	$ 565.
32x16 Pittsburgh, 4-jaw chuck, good condition	450.
24x12 Boye & Emmes, q. c. grs., 18" chuck, ex. cond	740.
24x12 Boye & Emmes, l. c. grs., heavy-duty, ex. cond	399.
24x12 Bradford, l. c. grs., taper attachment, ex. cond	375.
21x10 LeBlond heavy-duty, q. c. grs., good cond	865.
21x 8 LeBlond, heavy-duty, grd. hd., qk. ch. gears	785.
18x 9 Prentiss, grd. hd., qk. ch. grs., good condition	599.
18x8 Prentiss Tool Room Lathe, geared head, quick change gears, apron reverse, excellent condition	699.
18x8 Walcott, heavy-duty, quick change gears, like new	465.
16x10 South Bend, loose change gears, good condition	285.
16x6 LeBlond, quick change gears, good condition	335.
14x6 Hendey, tie bar type, good condition	515.
14x6 LeBlond, qk. ch. grs., complete equip., good cond	235.
14x6 Prentiss, loose change gears, good condition	115.

GRINDERS

No. 14 Brown & Sharpe plain, 12x48, good condition	$ 470.
No. 11 Brown & Sharpe plain, latest type, single pulley drive, 8x32, like new	425.
No. 13 Brown & Sharpe Tool and Cutter, good condition	365.
No. 11 Brown & Sharpe, 8x32, good working order	175.
No. 1 Norton Tool & Cutter, good condition	325.
No. 70 Heald, Internal, good condition	325.
No. 75 Heald, Internal, good condition	280.
8" Heald Rotary Surface; magnetic chuck, ex. cond	175.
14x36 Pratt & Whitney Vertical Surface, good condition	495.
16x48 Landis Crankshaft, like new	975.
No. 2 Brown & Sharpe Universal, good condition	290.
18" Blount Wet Tool Grinder, good condition	35.

A. R. Marsh Machinery Company,

For our financial responsibilit

Ever Offered!

MISCELLANEOUS

Whiting 2-ton, worm gear, Crane Ladle, new	$ 90.
H. & G. Chaser Grinder, new	80.
4" Oster Pipe Threader, complete with dies, new	275.
10x10 Bury Air Compressor with tank; good condition	215.
Houghton & Richards Band Saw, latest type, ex. cond., 6x6	140.
Klemm Band Saw, 6x6, good condition	115.
600 lb. Pratt & Whitney Board Drop Hammer, good cond.	225.
No. O Mitts & Merrill Keyseater with 25 cutters	145.
No. 2 Davis Keyseater, good condition	75.
4½x5 Ingersoll-Rand Air Comp., hopper-cooled, gd. cond.	75.
8x10 Herron-Bury Air Compressor, complete with tank, good condition	145.
6x6 Burke Cold Saw, good condition	130.
5" Cochrane-Bly Cold Saw, like new	145.
4" Higley Cold Saw, good working order	85.
No. 55 Atlas Power Driven Arbor Press, good cond.	175.
28" Wright Metal Cutting Band Saw, like new	175.
250 lb. Beaudry Hammer, good condition	150.
U. S. Hand Millers, good condition	90.
King Bridge Punch & Shear, 12" throat, arch. jaw; 1½ thru 1½; extra dies; good condition	150.
No. 30 Perkins Press, o. b. i., like No. 18 Bliss	115.
No. 41 Toledo Horning Press, good condition	145.
No. 19 Bliss Press, o. b. i., good condition	195.
No. 1 LaPointe of Hudson Broach, excellent condition	175.
No. 2 J. N. LaPointe, good condition	275.
No. 3 LaPointe of Hudson, good working order	150.
No. 3 J. N. LaPointe, excellent condition	310.
No. 4 LaPointe of Hudson, excellent condition	390.

900 West 73rd St., Cleveland, Ohio

e Bradstreet's September issue

A Few Machine Tools Not Listed in Our Recent

RED BOOK

Bending Roll, 10'x⅝" Southwark	$1350.
Bolt Cutter, 1½" Acme, 2-spindle	450.
Bolt Cutter, 2" Acme, single spindle	350.
Boring Mill, 60" Gisholt, s. p. d.	3250.
Boring Mill, 34" King	1000.
Gear Hobber, No. 3 Barber-Colman	850.
Grinder, No. 65 Heald cylinder	675.
Grinders, 10x36 Norton	750.
Fay Automatic, 14"	1450.
Hammer, 60-lb. Bradley Helve	450.
Lathe, 36" Bullard, New Era	4350.
Lathe, Turret, 14" Bullard, New Era	2450.
Lathe, 50" Cincinnati Pulley	1350.
Lathe, 24x10 Greaves-Klusman	1675.
Lathe, 24"x10' Hendey	1150.
Millers, C Becker vertical	1250.
Miller, No. 6 Becker vertical	1250.
Miller, No. 3B Kearney & Trecker	1950.
Mult-au-matic, 12" Bullard	4250.
Planer, 42x42x12' Cincinnati	1350.
Rivet Header, Berwick	200.
Riveter, No. 6 Whiting stake	1150.
Shear, 10'x3/16 Streine, m. d.	2250.
Upsetter, 1½" Acme, steel bed	2750.

NOTE TO DEALERS: These prices subject to your regular discount

Louis E. Emerman Co.

1761 Elston Ave., Chicago, Ill.

NEW 3 PHASE MOTORS CHEAP. 3 H. P. $54.50; 5 H. P. $65.50

LATHES

12"x 5' Cleveland, geared head.
14"x 6' Carroll-Jamieson, new, q. c.
14"x 6' Hamilton, grd. hd., motor dr.
14"x 6' Monarch, quick change.
14"x 8' Sidney, double back geared.
14"x 6' Hamilton, style B.
16"x 6' Monarch, motor drive.
16"x 8' Sidney, double back geared.
18"x10' American, quick change.
20"x 8' American, geared head.
20"x10' Hamilton, rapid production.
20"x10' Prentice, taper attachment.
22"x10' Greaves & Klusman.
24"x12' Bradford.
24"x24' Prentice, with raising block.
8x60" & 3½x60" Fitchburg, Lo-Swing.

TURRET LATHES and SCREW MACHINES

Acme ¾" cap., wire feed column.
No. 4 Defiance, 1¼" capacity.
1¼" capacity Smurr & Kamen.
1½" Milholland.
2x24 and 3x36 J. & L.
No. 1 Foster, 15/16" capacity, (2).
Warner & Swasey No. 2.
No. 52 National Acme.

SHAPERS

14" Niles, traveling head.
14" Steptoe, crank.
16" American tool room.
16" O. & S., b. grd., new, low price.
16" American back geared crank.
16" Cincinnati b. g., motor drive.
16" Barker back geared crank.
24" O. & S. back geared crank.

PRESSES

No. 10 and No. 15 Excelsior, foot.
Nos. 5 and 6 Toledo, o. b. i.
Nos. 3-A & 5-A Willard inclinable.
Nos. 1½, 2, 2½ & 4 Robinson, new.
Emco, bench, for radio parts.
Perkins, dbl. housing, wt. 4,000 lbs.

DRILLS and RADIALS

3' W. E. Gang plain.
No. 1 Baush multiple.
4' Plain Universal Radial Drill Co.
Electric Drills, Black & Decker.
No. 4 Duntley electric.
22", 24", 26", 28" and 32", sliding hd.
6' Ceiling drill.
4-spindle Reed sensitive.
44" Stover.
Hole Hog, No. 66-D, 7-spindle.

MILLING MACHINES

No. 1 Kempsmith universal, new.
No. 2 Kempsmith plain.
No. 3 Kempsmith plain, new.
No. 3 Cincinnati universal.
No. 5-C Becker, vertical.
No. 25 Becker plain, power feed.
No. 2 H Brown & Sharpe plain.
Oesterlein 24x7½x18 plain.
Briggs "A" high duty, 24x8" table.
No. 7 Becker, Lincoln type.

GRINDERS

Nos. 1 & 78 W. & M. surface.
6"x18" Fitchburg plain.
10"x36' Landis plain cylindrical.
12"x36" Cincinnati universal.
16"x42" Landis universal.
36" and 66" Yates plate.
No. 70 Heald internal.
No. 60 Heald cylinder.
Schmitt cylinder grinder.
No. 3 Ohio universal, tool and cut.
J B X, W. & M. tool and cutter.
No. 10 Besly 18" double disc.
No. 20 Bryant, chucking.
Capital internal, new, 2"x2" cap.

MISCELLANEOUS

Band saw, Clark, compound.
Band saws, Napier 4"x4", 10"x10".
Bending rolls, 7' for ⅜" plate.
Blower, positive pressure, Leiman style "E."
Boring mill, Colburn No. 3, tur. hd.
Boring mill, 50" car wheel.
Brake, 10', 18-gauge metal.
Broaching mchs., 1 and 3 LaPointe.
Compressors, 6x8, 8x8 and 9x8.
Drawing tables, adjust., 42"x6' top.
Gear cutter, No. 3—26 B. & S.
Gear miller, Bilton No. 1.
Hammer, No. 1 Pettingell.
Hammer, 150 lb. Standard drop.
Pipe machines, 2", 4" & 6".
Pumps, Gould triplex, 6½x8".
Punch & shear, 2½x10" throat.
Riveting hammers, High Speed Nos. 2, 3, 4 & 5-A.
Scale, 1500 lb. Toledo, dial type.
Sceleroscope, Shore type C.
Shear, 60" Peck, Stow & W., 18 ga.
Shear, No. 362 Robinson.
Shear, No. 20 Quickwork, 30" throat.
Shear, circular, Pettingell, 60" thrt.
Tapping machine, Acme 6-spindle.
Threading mche., W. & P. 2-spindle.

THE OSBORNE & SEXTON MACHINERY COMPANY
COLUMBUS Dept. H OHIO

Bath's Guaranteed

Boring Mills—Vertical

42" Bullard 2 swivel heads.
42" King, 2 swivel heads, rapid traverse.
44" Baush, 2 swivel heads.
42", 48" and 54" Colburn boring mills.
72" Pond, 2 swivel heads, heavy.
72" Niles-Bement-Pond, rapid traverse.
96" Niles, 2 heads, very good.

Boring Mills—Horizontal

3" bar Binsse, table type.
3½" bar Rochester, floor type.

Drills

4-spindle Moline rail drill, 1½" capacity.
3' Prentice radial.
No. 1, 8' wall radial.
28" Cincinnati, sliding head.
30" Aurora, sliding head.
24" No. 25 Foote-Burt, with compound table.

Forging Machines and Bulldozers

1½", 2½" and 3" Ajax Upsetters.
¾", 1¼" and 1½" Acme steel bed Upsetters.
4 & 5 Williams & White Bulldozers.
250-ton Mesta Steam Hydraulic, 85%.

Grinders

No. 2 Diamond surface, table 36"x12".
84" Diamond surfacer.
18x96" Norton plain.
17x36" Landis universal.
No. 2 Brown & Sharpe Surface Grinder.
No. 2 Norton universal tool and cutter.
No. 20 Safety electric floor grinder, 10 HP motor, 32"x4" wheels.
Various electric floor grinders and grinding stands.

Keyseaters

No. 00 Baker, capacity ¾"x8", tilting table.
No. 1 Baker, capacity 1"x12", tilting table.
No. 3A Mitts & Merrill 2"x25".
No. 5 Mitts & Merrill, 25" str., cap. to cut keyways up to 3½" wide.
No. 2 Baker Bros. 2"x18", tilting table.
All Keyseaters have large equipment.

Lathes

14" to 18"x6'-9' beds, tool room.
20"x10' Boye & Emmes, quick change, double back geared.
30"x14' Boye & Emmes, double back geared.
36"x14' Schumacher & Boye, triple geared.
48"x26' Bridgeford, grd. hd., t. a.
48"—60"x34' Houston, Stanwood & Gamble, grd. hd., mtr. dr.
72"x20' American, triple geared.

CYRIL J. BATH & CO., E. 70th &

Cleveland Stock

Hydraulic Equipment

175-ton R. D. Wood 4-column Flanging Press.
Morgan Hydraulic Riveter, 8' 6" gap.
Wood and Bement-Miles Hydraulic Riveters, 10' 6" gap.

Tumbling Barrels

Several sets 18"x48" steel lined, square, with roller bearings and exhaust.

Milling Machines

Style "B" Gooley & Edlund, table 54"x11½", (2).
20"x7½"x18" Oesterlein plain, belt drive.
No. 1 Rockford plain, back geared, 22"x6½"x15'.
No. 2-B heavy Brown & Sharpe plain, 28"x10"x19".
No. 3 Hendey, geared head, plain.
No. 4 Cincinnati high power miller, table 64½"x16½".
Becker miller, model "C", table 14"x54".

Planers

22"x24"x57" Fitchburg, single head.
30"x30"x8' Gray, single head.
60"x60"x20' Cincinnati, 4 heads, 3 speed, very good.

Punches and Shears

84" throat, Long & Allstatter, capacity about ¾" thru ¾".
Kling Bros. horn press, 60" horn, flywheel 50" dia. 6½" face.
48" throat No. 4 Southwark, capacity 2"x1¼".
36" throat Lennox rotary shear, capacity about ½" plate.
15" throat No. 14 Williams & White.
No. 4-R United Engineering alligator shear, 12" blades, 3" cap.
No. 18 Carlin alligator shear, 2¾" capacity, 23" blades.
Lennox rotary bevel shear, ¾" capacity.
76" Multiple punch, shear or press, ⅝" capacity.

Turret Lathes and Screw Machines

3"x36" Jones & Lamson.
No. 4 Bardons & Oliver.

MISCELLANEOUS

Acetylene Generator.
Blower, No. 4 Root, motor drive.
Blowers, Nos. 1 & 2 Buffalo Forge.
Bolt cutter, Acme, 1" capacity.
Chain Hoists, ½, 1, 1½, 4 & 6 ton.
Cold Saw, No. 4 Cochrane-Bly.
Gear Cutter, 36" Gould & E.
Hammer, 100 lb. Bradley helve.
Pipe Machine, 4" Jarecki.
Press, No. 66 Consolidated, 4" str.
Press, 30 ton Lucas forcing.
Pyrometer, Brown.
Shaper, 12" Springfield crank.
Shaper, 24" Rockford.
Slotter, 48" Niles-Bement-Pond, motor drive.
Slotter, 10" Newton.

& Machinery Av., N. E., Cleveland, O.

Good Used Machines,

PRESSES—SHEARS.

BLISS No. 1½ and 3½-A Toggle Drawing Presses.
BLISS No. 4 Stiles Press, flywheel type.
BLISS No. 31 Overhanging Flywheel Press.
BLISS No. 61 Flywheel Press, weight 2000 lbs.
BLISS Stiles No. 3 Geared Press.
BLISS No. 73½ Straight Side Geared Press.
STOLL No. 68 Straight Side Geared Press.
TOLEDO No. 54 Geared Straight Side Press.
TOLEDO No. 96-F Double Crank Geared Press.
TOLEDO No. 55½ Straight Side Trimming Press.
TOLEDO Nos. 164½, 167, 168¾ Toggle Drawing Presses.
TOLEDO No. 5 Inclinable, flywheel.
TOLEDO No. 666 Knuckle Joint 1000-ton Press.
CONSOLIDATED No. 56 Flywheel Trimming Press.
CONSOLIDATED No. 165 Flywheel Double Crank.
FERRACUTE EG-6, 100-ton Embossing Press.
FERRACUTE D-66 Straight Side Reducing Press.
FERRACUTE No. DD-66 Cam Drawing Press.
ZEH & HAHNEMANN No. 20 Percussion Press.
HIGH SPEED Riveting Hammers, 3-A, 4-A, 5-A and 6-B.
NIAGARA No. 642 Power Shear, 42" blades, 10 gauge.
BLISS Cut Back Frame No. 73¾ Press.
FERRACUTE Nos. DGG-55 and DGG-56 Presses.

STRUCTURAL SHOP EQUIPMENT.

WILLIAMS-WHITE Nos. 0, 1, 2, 4, 6, 7, 28 Bulldozers.
CANTON No. 5 Alligator Shear, 3" capacity.
BERTSCH Angle Bending Rolls, capacity 2"x2"x¼".
CLEVELAND Punch Style "G", 42" throat, capacity 2" thru 1".
TOLEDO Squaring Shear 8', ⅜" capacity, 15" gap.
ROCK RIVER Punch 30" throat, 1" thru 1", motor drive.
LONG & ALLSTATTER Punch, 2" thru 1", arch. jaw.
WILLIAMS & WHITE No. 14 Double End Punch and Shear, 25" throat, capacity 1¼" thru 1".
No. 34 LENNOX Rotary Bevel Shear, capacity ¾", motor drive.
No. 5 QUICKWORK Rotary Shear, motor drive.
SOUTHWARK Hydraulic Riveter 75-ton, gap 8'6".
HANNA 20-ton Pneumatic Riveter, 5' gap.
HANNA Riveter, 50-ton, 8'6" gap.
No. 3 QUICKWORK Rotary Shear, with circle shear attach.

D. C. OVIATT & COMPANY, 216

Some Rarely Available

UNUSUAL EQUIPMENT.

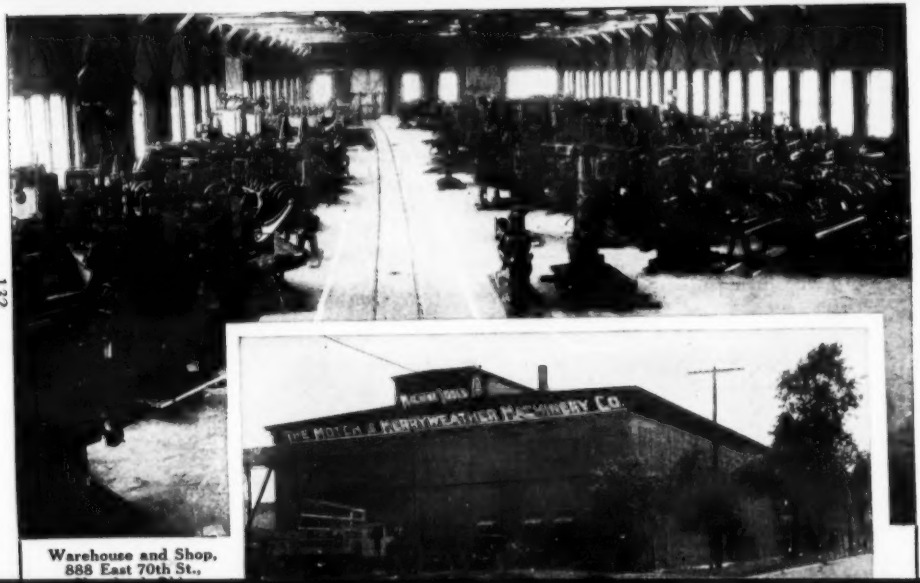
STOCKBRIDGE 20" and AMERICAN 24" Shapers.
ERIE 800 lb. Single Leg Steam Hammer.
NAZEL Nos. 2-B and 5-B Air Hammers.
BEAUDRY 50 and 200. lb Power Hammers.
BRADLEY 75 lb. Upright Helve Hammer.
GARVIN No. 2 Back Geared Automatic Tapping Machine.
LANDIS 1" Double Head Bolt Cutters.
LANDIS 2" Bolt Cutter, Lead Screw.
LANDIS 1½" with and without lead screw, (2).
18" LIBBY Lathe, motor drive.
18"x10' BOYE & EMMES Engine Lathe.
WARNER & SWASEY No. 4 Turret Lathe.
CINCINNATI-ACME 3¼"x36" Flat Turret Lathes.
CLEVELAND ½" Model "B" and "G" Automatics.
COLBURN D-3 Drill Press, gap 3" steel.
NILES 42" Car Wheel Borer, motor drive.
GREENLEE Universal Joint Borer, 12' table with automatic feed, 12-spindles, motor driven.
GREENLEE Single Spindle Universal Borer.
INGERSOLL-RAND Compressor, N. E. I. 12¼"x12".
CHICAGO Pneumatic Air Compressor 10"x10".
BRIGGS Millers 34", type B, (10).
DINGS Magnetic Separator, 220 volt A. C.—110 volt D. C. Motor Generator Set.
ROOTS P. H. & F. M. Blower, size 5, 14" exhaust with extension base for motor drive.
DILLON 7½ H. P. Electric Grinder, ball bearing.
THOR 1-Ton Air Hoist 20' lift, (2).
MOLINE 13-D "Hole Hog" 9-spdl., No. 4 Morse Taper, 12x84" tbl.
SIBLEY 24" Upright Drill.
COLBURN 36" Vertical Turret Boring Machine, swivel turret slide, 30" diameter, 3 jaw chuck in table.
EUCLID Electric Traveling Crane, 3-ton capacity, 41' span.
LUCAS 30-Ton Power Forcing Press.

Some of the Above Equipment

is located in the plant of the Kenova Mine Car Co., Kenova, West Virginia, which we are liquidating.

SEND FOR COMPLETE LIST

Lakeside Ave., CLEVELAND, OHIO



Warehouse and Shop, 888 East 70th St.,

The discriminating PURCHASER will find our Rebuilt Tools MACHINES OF QUALITY, backed by our GUARANTEE

BORING MILLS

24" Bullard Vertical Turret Lathe, New Era Type.
42" Gisholt Rapid Power Traverse, one turret head, plain head.
51" Bullard Standard Turning and Boring Mill.
54" Bullard Boring and Turning Mill, rapid production type.
8' Cincinnati Boring Mill, rapid traverse, 2 swivel heads.
No. 1 Cleveland Horiz., sgl. pulley dr.
No. 0 Giddings & Lewis Horizontal, single pulley drive.

DRILLS

No. 217 Baker.
No. 310 Baker.
No. 314 Baker.
32" Cincinnati Bickford, with tap. att.
36" American Sensitive High Speed Radial, tapping attachment.
3½' American Pl. Radial, gr. box dr.
6' American Radial, gear box drive.

GEAR CUTTERS

36S Gould & E. Spur Gear Cutter.
No. 12 Barber-Colman Gear Hobbers.
36H Gould & Eberhardt Gear Hobber
8" Gleason Bevel Gear Generator.
11" Gleason Bevel Gear Generator.
60" Brown & Sharpe Gear Cutter.
72" Brown & Sharpe Gear Cutter.

GRINDERS

6x32 Norton.
10x50 Norton.
Taylor & Fenn Internal Grinder.
No. 2 Brown & S. Surface Grinder.
No. 10 Blanchard Surface Grinder, motor in head
No. 16 Blanchard, Floor Motor Drive, no motor.
No. 22 Heald Rotary Surface Grinder, 12" magnetic chuck.
No. 255 Heald Rotary Surface Grinder, 8" or 12" magnetic chuck.

LATHES

14x6 Hendey, with taper attachment and relieving attachment, q. c. f.
16x8 LeBlond, taper att., cone drive.
20x10 Reed-Prentice, geared head, single pulley.
24x12 Schumacher & B., q. c. f., c. dr.
36x10 American, geared head, with taper attachment.
42x32 American, geared head, with 35 h. p., d. c. motor

MILLING MACHINES

No. 1-B Brown & Sharpe plain, single pulley drive.
No. 2 Kempsmith plain, cone drive.
No. 2-G Hendey Universal, with dividing head, vise, single pully drive.
No. 3 Cincinnati Universal, with dividing head, single pulley drive.
No. 4 Cincinnati Plain High Power, single pulley drive.
No. 4 Cincinnati Universal, with dividing head, cone drive.
No. 3 Cincinnati Vert., sgl. pulley dr.
No. 4 Cincinnati Vert. sgl. pulley dr.

PLANERS

24"x24"x10' Gray, 1 head on rail.
36"x36"x8' Cleveland Openside, 1 side head, 1 rail head.
36"x36"x20' Cincinnati, 2 rail heads, 1 side head, box table, rapid power traverse, forced lubrication.

SHAPERS

15" Potter & Johnston Univ., cone dr.
16" Gould & Eberhardt, cone drive.
24" American, cone drive.
28" American, cone drive.

TURRET LATHES

No. 4 Warner & S., pwr. fd. to turret.
No. 2-A Warner & Swasey, complete chucking equipment.
No. 3-A W. & S., comp. ck. equip.
2¼x26 Cincinnati Acme, cone drive.
3¼x36 Cincinnati Acme, geared head.

This is a partial list of our equipment. In addition to above list we have several hundred machines going through the process of rebuilding.

A Used Machine is as Dependable as the Dealer Who Sells It

THE MOTCH & MERRYWEATHER MACHINERY CO.

CLEVELAND

DETROIT CINCINNATI PITTSBURGH

QUALITY Rebuilt and

Milling Machines

No. 3 Cincin. univ.,cone pulley complete.
No. 3 R. K. LeBlond univ., c. p., comp.
No. 2 B. & S. univ., cone pulley, comp.
No. 1½ Rockford univ., c. p., compl.
No. 5 R. K. LeBlond plain, sgl. pulley.
No. 3B-heavy B. & S. plain, sgl. pulley.
No. 3-B B. & S. plain, single pulley.
No. 3 Kempsmith plain, cone pulley.
No. 3 Cincinnati plain, cone pulley.
No. 3 Hendey plain, cone pulley.
No. 2½ R. K. LeBlond plain, cone pul.
No. 2-heavy B. & S. plain, cone pulley.
No. 2-Y Brown & S. plain, cone pulley.
No. 2 R. K. LeBlond plain cone pulley.
No. 1½ Cincinnati plain, cone pulley.
No. 0 Cincinnati plain, cone pulley.
No. 3 Brown & Sharpe vertical, single pulley, power rapid traverse.
28" Cinti. semi-auto. duplex milling mche.
No. 2 Bristol hand mill. mche., b. b.
No. 7 Becker Lincoln type mfg. milling machine.

Radials and Upright Drills

2' Foedick plain radial, gear box drive.
2' American triple grd. pl., radial, c. p.
No. 1 and No. 3 W. F. & John Barnes horizontal radials.
36" Cincinnati-Bickford upright drill.
32" Reed-Prentice upright drill, s. p., t. a.
28" Cincinnati-Bickford upright drill, gear box drive, tapping.
28" Aurora upright drill.
26" Reed-Prentice upright, gear box dr.
24" Cinti.-Bickford upright, gear box dr.
24" Rockford upright drill press.
22" W. F. & John Barnes upright.
25" W. F. & John Barnes upright, s. h.
20" Barnes all geared drill, self oiling.
No. 12 Natco multiple drill and tapper.
No. 0 Fox multiple drill press.
No. 310 Baker Bros. hvy. duty drill press.
2-spindle Leland-Gifford ball bearing drill, tapping attach. on 1 spindle.
1, 2, 3 and 4-spindle Henry & Wright ball bearing drill presses.

Shapers and Planers

24" Kelley heavy duty b. g. crk. shaper.
24" Steptoe triple geared shaper.
20" Cincinnati hvy. duty b.g. crk. shaper.
20" Steptoe hvy. duty, b g. crank shaper.
20" Niles-Bement-P. b.g. crank shaper.
18" Hollingsworth b. g. crank shaper.
16" Ohio hvy. duty b. g. crank shaper.
16" Smith & Mills plain crank shaper.
42"x42"x12' G. A. Gray planer, 1 head on rail.
38"x38"x18' Niles Planer, 2 hds. on rail.

Gear Machinery and Grinders

No. 12 Barber-Colman gear hobbers, serials over 1700.
18-H Gould & Eberhardt high duty gear hobbers.
No. 5-A Lees Bradner gear hobbers.
No. 3—26" B. & S. auto. spur gear cut.
No. 70 Heald int. grinder, late type, comp.
Capitol internal grinder, collet attach.
No. 60 Heald cyl. grinder, late type, compl.
No. 120 Gardner ball bear. double disc.
Nos. 2 and 6 Garder disc grinders.
Walker single stroke surface grinder, magnetic chuck.
84" Diamond face grinder, motor drive.
6"x32" and 10x36" Norton plain.
8"x30" Modern pl. self-contained grinder.
No. 2—12"x36" Cincinnati plain grinder.
Nos. 1 and 3 Brown & S. univ. grinder.
No. 1 R K. LeBlond univ. tool & cutter gr.
No. 2 Oakley univ. tool & cutter grinders.

Engine and Turret Lathes

30"x34' American Tool Works, q. c.
30"x17' Houston, Stanwood & Gamble heavy duty, quick change.
26"x16' Walcott heavy duty, q. c.
26"x8' Walcott heavy duty, q. c.
24"x12' Reed-Prentice geared hd., q. c. lathe, arranged for motor drive.
24"x10' Boye & Emmes, quick change.

EASTERN MACHINERY CO

We also Buy machinery.

Guaranteed Machine Tools

Engine and Turret Lathes—Cont.

24"x10' American Tool Works, geared head q. c. lathe, arranged for motor.
21"x10' R. K. LeBlond heavy duty, q.c.
20"x12' Lodge & Shipley, q. c.
18"x12' South Bend standard change.
18"x8' Reed-Prentice geared head, q. c.
18"x8' Rockford q. c.
18"x8' Mueller hvy. duty, q. c.
18"x8' Lodge & Shipley, q. c.
16"x8' R. K. LeBlond hvy. duty, q. c.
16"x8' Hendey yoke head, q. c. tap. att.
16"x6' Lodge & Shipley, q. c.
16"x6' R. K. LeBlond q. c.
14"x6' Hendey yoke hd., q. c., taper att.
14"x6' Lodge & Shipley q. c.
No. 3-A Warner & Swasey univ. hollow hexagon turret lathe.
21" & 24" Gisholt turret lathes, late type.
3"x36" Jones & Lamson turret lathe.
2½"x26" Pratt & Whitney turret lathe.
Nos. 2, 4 & 6 Warner & S. turret lathes.
No. 4 W. & S. grd. hd. univ. tur. lathe.
Nos. 2 and 4 Foster turret lathes.
No. 4 Millholland turret lathe.
No. 4 Bardons & Oliver turret lathes.
No. 4 Brown & S. wire feed screw mch.
No. 2 S. P. Garvin turret screw mchs.
1" Briggs turret screw machines.

Miscellaneous

Air Compressor, 10"x10" Chicago-Pneumatic Tool Co's. class N. S. B., b. d.
Air Compressor, 18"x12"x12" Laidlaw double stage, steam driven, cap. 700 cu. ft.
Air Compressor, 14"x12' Worthington feather valve, b. d.
Arbor Presses, No. 55 Atlas power and No. 4 Atlas compound geared.
Bolt Cutters, 1", and 3" Acme, class A.
Bolt Threading Machines, 1" and 1½" Landis with lead screws.
Boring Mill, 24" Bullard vertical, rapid production type.
Boring Mill, 76" Bullard vertical, 2 heads, cone pulley.
Boring Mill, 36" Gisholt vertical, turret head, motor drive.
Boring Mill, Niles Tool Works vertical, 2 heads, motor drive.
Broaching Machines, No. 2 and No. 3B J. N. LaPointe.
Hammers, 40 and 60-lbs. Bradley rubber cushioned helve.
Hammer, 30-lb. Bradley upright power.
Hammers, 100 and 200-lb. E. W. Bliss board drop.
Hammer, 600-lb. Chambersburg steam.
Keyseater, No. 00 Baker Bros., capacity ¾" keyways.
Keyseater, No. 1 Catlin, capacity 1/16" to 1½" keyways.
Milling Machines, Ingersoll slab, 36"x20"x8', 4 heads.
Press, No. 92-D Toledo, double crank geared, 48" between uprights.
Press, No. 6A Toledo geared, o. b. i.
Press, power, No. 6 Consolidated, o. b. i.
Press, power, No. 6 Chas. Leffler, o. b. i.
Press, power, No. 5 Toledo, o. b. i.
Press, power, No. 4 Niagara, o. b. i.
Presses, power, 15 and 30-ton Lucas forcing, belt drive.
Riveting Hammer, No. 2A High Speed.
Shear, power, 8' George A. Ohl, cap. 3/16" and lighter.
Shear, power, No. 242 Niagara 42", capacity 14 gauge.
Shear, power gap, No. 162 D. H. Stoll 62", cap. 16 gauge and lighter.
Tapping Machines, Garvin automatic, Nos. 1, 2 and 2-B. G.

And many others;—Send for our new stock list.

08 E. Pearl St., CINCINNATI, O.

What have you to Sell?

Must Vacate Our Warehouse — Attractive Prices To Move Stock

BORING MILLS:	30" Colburn Vertical	$450.
	36" American	350.
	42" Bullard Vertical	850.
	Niles Horizontal Boring, Drilling and Milling Machine, 5" dia. bar.	
DRILLS:	12" Cincinnati Hi-speed.	
	24" Weigel B. G.	$350.
	24" Sibley B. G.	
	36" Aurora.	
LATHES:	18"x 8' 6" Prentice.	
	18"x 8' Pratt & Whitney.	
	24"x10' Putnam t. a.	
	24"x12' Reed, h. s.	
	24"x12' New Haven.	
	26"x12' Bridgeford Heavy Duty.	
	26"x16' Prentice taper attachment.	
	36"x17' Gleason Triple Geared.	
	24" Libby Turret.	
	24"x6' Gisholt Turret, 6¼" hol. spdl.	$850.
	Lewis Roll Lathes.	
MILLING MCHES.:	No. 5 Brown & Sharpe Plain	$475.
	No. 2M Cincinnati Plain.	
	No. 2 Kempsmith Plain.	
PUNCH & SHEAR:	Canedy-Otto, hand power, ½"x½"	$ 45.
	No. 5 Long & A., d. e., 10" throats, cap. ⅝" thru ⅝".	
	No. 45 Buffalo S. E. Punch & Shear.	
GRINDERS:	No. 1 Wilmarth & Morman Surface.	
	No. 55 Heald Internal.	
	No. 96 Ott Piston.	
	Bridgeport Knife & Drill.	
SHAPERS:	28" Ohio Double Geared	$300.
	20" Rockford b. g.	
	14" Lodge & Davis.	
MISCELLANEOUS:	Air Compressor, Chicago 12x14, cap. 275 cu. ft.	$500.
	Blower, No. 2 Roots Rotary.	
	Crane, Panama Portable, 2½-ton	$ 60.
	Chain Block, 2-ton Harrington Triplex.	
	Chain Block, 6-ton Yale & Towne Triplex.	
	Gear Cutter, No. 6 Brown & S., cap. up to 72"x13".	
	Cutting-Off Machine, Nutter-Barnes.	
	Motor, 5 H. P. Westinghouse—3-60-220.	
	Planer, Cincinnati 48"x44"x12'.	
	Planer, Cincinnati 60"x60"x20'.	
	Planer, Cincinnati 42"x36"x12', 2 heads.	
	Planer, Detrick & H. Openside, 96"x72"x26'.	
	Press, No. 3½ Bliss Toggle Drawing.	
	Riveters, Allen Portable Pneumatic; Nutcracker and Horseshoe 8", 10", 12", 20" & 26" reach.	
	Saw, Sterling Hack, cap. 9"x9".	
	Slotter, Dill 34" rotary table.	

RUSSELL MACHINE COMPANY

1447 Oliver Building, PITTSBURGH, PA.

Good Tools—Priced Right

DRILLS

No. 3 Baush High Speed Multiple Spindle Drill, 20"x40" rectangular head; ten spindles 1¾". Condition good	$1000.
28" Barnes Sliding Head, tapping attach., comp. table. Condition good	350.
(NEW) 26" Kern Sliding Head, back gear, power feed, tapping attach.	600.

GRINDERS

Wilmarth & Morman Twist Drill Grinder, motor drive, capacity ½" to 3½". Condition good	$175.
No. 1 Cincinnati Cutter and Tool Grinder	150.
No. 15 Bryant Semi-Automatic Hole Grinder. Like new	900.
10"x30" Fraser Self-Contained Universal. Condition fair	375.
No. 190 Greenfield Universal Cutter and Tool. Condition good	150.
No. 5 Oliver Twist Drill, motor drive, capacity ¼" to 2¾". Like new	450'
6"x32" Norton Plain Grinder. Condition good	400.
No. 10 Brown & Sharpe Plain Grinder, 6"x20". Condition good	125.
No. 11 Lumsden Plain Ball Bearing, with cup wheel. New	275.

MILLERS

No. 6 Whitney Hand Miller. Condition good	$150.
No. 10 Pratt & Whitney Hand Miller	150.
No. 3H LeBlond Plain Cone Type Miller. Like new	1300.
No. 0 Brown & Sharpe Plain Miller. Condition good	300.
No. 0½ LeBlond Plain Miller	400.
No. 33 Kempsmith—Lincoln Type—Miller	750.
No. 32 Kempsmith Miller. Condition good	350.
Taft-Pierce Thread Miller	400.
Briggs Type A Miller, 16" table feed. Condition good	250.

SAWS

No. 15 Lea-Simplex Type BB Cold Saw. Condition very good	$600.
20" Silver Belt Drive Band Saw	65.
6" Napier Metal Band Saw	150.

TURRET LATHES AND SCREW MACHINES

No. 3 Warner & Swasey Plain Head Screw Machine	$175.
Defiance Hand Screw Machine 16" swing, pan bed, friction head	350.
Plain Head Screw Machine, pan bed, automatic chuck	100.
No. 6 Brown & Sharpe Turret Screw Mche. with roll fd. Condition good	800.
No. 2 Warner & Swasey Hollow Hex. Srew Machine	400.
1"x15" Pratt & Whitney Turret Screw Machine. Condition good	500.
No. 3 Foster Turret Lathe. Condition good	300.
No. 3 Foster Turret Lathe with auto. Chuck. Condition good	300.

MISCELLANEOUS

LaPointe (Hudson Mass.) Broaching Machine, with 2" diameter screw 48" long. Condition good	$300.
4" Hurlburt-Rogers Cone Type Cutting-Off Mche. Condition very good	250.
No. 425 Standard Fuel and Engineering Company High Speed Furnace, with heating space 9"x14"	75.
24" G. & E. Gear Hobber. Cap. 24"x10"x5", 6-pitch. Condition fair	325.
18" Gleason Bevel Gear Generator. Condition good	800.
No. 6 Fellows Gear Shaper	500.
No. 5 Williams-White Drop Hammer. Weight of ram 600 lb.	350.
No. 1 Gray Sheet Metal Cutter, cap. 3/16"; depth of throat 34". Like new	400.
No. 1 National Acme Screw Slotter. Condition good	125.
12" Rochester Tooth Rounder	300.
Oblique Steel Tumbling Barrel, bottom diam. 24", top 15½"	25.

Peninsular Machinery Co.

429-431 Jefferson Ave. E., DETROIT, MICH.

Prices To Force Immediate Sale

BORING MILLS

42" Bullard New Era vertical turret.
36" Bullard New Era vertical turret.
24" Bullard New Era vertical turret.
61" Bullard Maxi-Mill.
72" Cincinnati, 2 swivel heads.
96" Cincinnati, 2 swivel heads.
62" Niles-Bement-Pond, 2 swivel hds.
53" Niles-Bement-Pond, 2 swivel hds.
The preceding machines are all latest type, with power rapid traverse.
16'—36' Niles extension, 2 swivel hds.
14'—20' Betts extension, 2 swivel hds.
42" Bullard, 2 swivel heads, s. p. belt or motor drive.
Lucas horiz. boring mill, 3" spindle.
Barrett cylinder boring mills, sizes 1 to 3.
Horizontal Boring Mills, No. 2 B. & S.; Niles-Bement-P. 4½" & 6½" spindles; Rochester 3½" spdl.; Detrick & Harvey 5" spindle.

RADIAL DRILLS

6' Cincinnati-Bickford full univ.
3' Cincinnati-Bickford plain.
4' Bickford plain, s. p. d.
5' Baush plain, s. p. d.
Full Universal Portable Radial.

SHAPERS

16" American.
15" Potter & Johnston.
16", 20" and 24" Gould & Eberhardt.

MILLING MACHINES

No. 4 LeBlond plain.
No. 3 Owen universal.
No. 3 Cincinnati universal.
No. 3 Brown & Sharpe plain.
Nos. 2 & 4 Cincinnati vertical.
O. Y. Brown & Sharpe plain.

PLANERS

24"x24"x 6' Gray, single head.
24"x24"x 6' Pond, 2 heads.
42"x42"x12' Detrick & H. open-side.
96"x72"x24' Detrick & H. open-side.
60"x60"x20' Cincinnati.
30" Cleveland rotary planer.

LATHES

60"x40' Fifield, triple geared.
48"x18' Houston, Stanwood & Gamble, q. c. g., d. b. g.
30"x18' Houston, Stanwood & Gamble, q. c. g., d. b. v.
36"x30' Lodge & Shipley, selective head, m. d., q. c. g.
30"x20' Fitchburg.
36"x36' Bridgeford, grd. hd., q. c. g.
18"—36"x8' Fay & Scott gap lathe.

TURRET LATHES AND SCREW MACHINES

No. 2-A Warner & Swasey, bar and chucking equipment.
No. 3-A Warner & Swasey.
26" Libby.
18" Libby.
No. 4 Warner & Swasey.
9/16" Gridley 4-spindle auto.
1¼" Gridley 4-spindle auto.
2¼" Gridley 4-spindle auto.
No. 0 B. & S., wire feed.
1¼" Cleveland Model B.
No. 56 National-Acme.

GRINDERS

Norton pl., 3"x18", 6"x32", 10"x72".
Norton 20"x96" roll grinder.
Brown & Sharpe plain, Nos. 10, 11, 16 and 2 surface.
84"x24" Diamond open-side surface.
No. 16 Blanchard vert. surface, direct motor driven.
14" Pratt & Whitney vert. surface.
Nos. 50, 60, 65 Heald cylinder.
No. 70 Heald internal.

POWER PRESSES, SHEARS, ETC.

Bliss Nos. 18, 19, 20 incl.; Nos. 74½, 75½, 78½ and 87 s. s.
No. 2 Niagara incl.
Nos. 54 and 58 Toledo s. s.
No. 3 Hills & Jones dbl. end punch.
Lennox ⅛"x44" thrt. rot. split. shear.
No. 3 LaPointe broach.

Let us know your Machine Tool Requirements.
Advise us what you have for sale.

Sun Machinery Company, Inc.

39-41 Hamilton St., Newark, N. J.

REBUILT—Condition Guaranteed On a Money Back Basis

LATHES

14"x 6' Whitcomb-Blaisdell.
14"x 8' Fay & Scott, taper.
18"x 8' Lodge & S., grd. head.
20"x 8' Hamilton, dbl. b. g.
20"x10' American, grd hd., q. c.
22"x10' Davis, d. b. g., q. c.
32"x10' Pond pl. change, cheap.
34"x10' Putnam, plain change.
38"x14' Fifield, heavy pattern.

MILLING MACHINES

No. 3H LeBlond, pl. vert. attach.
No. 3 Kempsmith pl., ex. cond.
No. 2B Brown & Sharpe hvy., pl.
No. 25 Becker, plain, (3).
No. 20 Oesterlein, plain.
No. 3 Cincinnati vert., high pwr.
Nos. 3, 5 & 6 Becker verticals.
No. 8 Hendey hvy., Lincoln type.
No. 3½ Pratt & W. duplex.
No. 3 P. & W. die sinker.

SHAPERS AND PLANERS

20" Rockford, b. g. shaper.
20" Kelly b. g. shaper, New.
26"x 6' Pond planer, 1 head.
30"x10' Pond planer, 1 head.
30"x 8' Ohio heavy planer.
36"x15' Betts planer, 2 heads.
60"x12' Niles planer, 2 heads.
72"x25' Bement, 3 heads, cheap.

DRILLS

24" Milwaukee, b. g., New.
28" Hamilton, b. g.
24" Foote-Burt, heavy duty.
36" Dreses radial, plain.
60" Prentice radial, gear box.
No. 2 Foote-Burt, 4-sp. gang drill.
No. 513 Baker, 5" cap.

PRESSES

No. 3 Loshbough-J., 2½" stroke.
No. 4 Loshbough-J., 3" stroke.
No. 32 Michigan solid back.
No. 93 Consolidated solid back.
No. 55 Adriance dbl. crank.
No. 204-A Toledo d. c. g., 2½" str.

BOLT AND PIPE THREADERS

1" Reliance bolt cutter, ex. cond.
4" Saunders pipe machine.
3½" & 4" Acme bolt cutters.

SCREW MACHINES

⅝"-⅞" Cleve. Auto. ser. 30000, dbl. cross slides, (5).
No. 1 Garvin hand, ⅝" capacity.
No. 3 Superior hand, 1-5 16".
No. 4 Milholland, 1⅝".
1⅝" Kent Owen, grd. fr. head.
21" Libby Turret Lathe, 4⅛" hole.
No. 6 Foster, grd. fr. head.
2" Cleveland model A, ex. cond.
Several ¾" Cleveland and Hartford automatics, cheap.
No. 1 Warner & Swasey, ⅝" cap.

GRINDERS

6"x32" Norton plain.
14"x72" Norton plain.
16"x96" Landis plain.
No. 85 Heald internal.
16"x48" Landis, crankshaft.
29"x96" Landis, crank.
P. & W. vertical surface grinder.
No. 3½ Van Norman auto. ball race.

MISCELLANEOUS

Boring mill, 36" Niles, 2 heads.
Boring mill, Binsse horizontal.
Keyseater, No. 0 Mitts & Merrill.
Punch, No. 5 Long & Allstatter.
Punch, Badger 1" in 1", 11" thrt.
Riveter, ⅜" Grant spinner.
Riveter, 3A High Speed Hammer.
Slotter, 15" Dill.
Shear, 40-C Williams-White billet, 4¼" cap., with motor.
Turret lathe, 21" Gisholt.
Upsetter, 2" Ajax.

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A. D. White Machinery Co.

108-114 N. Jefferson St., Chicago, Ill.

Lowest Prices!

and The World's Greatest Stock!

LATHES

48"x40' Pond h. d., triple geared.
42"x22' American geared head, q. c.
36"x30' American geared head, q. c.
36"x20' Niles h. d. triple geared.
36"x12' Bridgeford grd. hd., q. c.
21"x12' LeBlond h. d., q. c.
20"x10' Davis, h. d., q. c.
16"x10' Hendey q. c.
16"x 8' Springfield q. c.
19"x10' LeBlond q. c. production.

MILLERS

No. 3 Brown & Sharpe vertical.
No. 5-C Becker vertical.
No. 5-D Becker vertical.
No. 1 Newton vertical.
No. 7-H Becker Lincoln type.
No. 2½ Hendey Lincoln type.
No. 2A Milwaukee plain.
No. 3 Milwaukee plain.
No. 21 Garvin plain.
No. 20 Oesterlein plain.
No. 25 Oesterlein universal.
No. 29 Oesterlein universal.
24"x24"x12' Ingersoll horiz. slab.

GRINDERS

16"x66" Landis universal.
10"x48" Landis universal.
16"x36" Landis universal.
16"x68" Landis crankshaft.
12"x36" Fitchburg cylindrical.
No. 60 Heald cylinder.
No. 3 Diamond auto. surface with 7"x26" magnetic chuck.
No. 3 Diamond wet tool.

PRESSES

No. E-57 Ferracute 2½" stroke.
No. 58 Toledo, double geared, 4" str.
No. 75½ Bliss trimming.
No. 4 Pratt & Whitney trimming.
No. 5 Crosby Stiles type.
No. 6 American Can inclinable.
No. 4 R. & K. inclinable.
No. 2 L. & A. Style A forming press 12'—100 ton pressure.

PLANERS

60"x60"x18' Pond 2-heads.
48"x48"x18' New Haven 1-head.
48"x48"x 8' Sellers 1-head.
30"x30"x 6' Gray 1-head.
24"x24"x 8' Gleason 1-head.
22"x22"x 5' Gray, 1-head.
F2 Newton planer centers.
48" Niles rotary planing machine.

SHEARS

30" M. & H. guillotine, cap. 6"x6".
48" Lewis gate, cap. 1¼".
6' Lennox rotary, cap. ¾".
30" Bethlehem rotary, cap. ¼".
24" thrt. Morgan dbl. end, cap. 1".
No. 7 United alligator, cap. 6"x6".
No. 2 Carlin alligator, cap. 5"x5".

HAMMERS

6000 lb. Chambersburg d. f. steam.
4000 lb. Niles d. f. steam.
2500 lb. Chambersburg d. f. steam.
2000 lb. Chambersburg d. f. steam.
4000 lb. Niles s. f. steam.
1500 lb. Niles s. f. steam.
800 lb. Niles s. f. steam.
3000 lb. Bliss board drop.
2500 lb. Bliss board drop.
2000 lb. Bliss board drop.
1000 lb. Union board drop.
800 lb. Union board drop.
500 lb. Bradley upright.
80 lb. Bradley helve cushion.

MISCELLANEOUS

No. 7 Ajax bulldozer.
No. 6 Ajax bulldozer.
No. 4-B W. & W. bulldozer.
2" National d. h. bolt cutter.
6" Bignall & Keeler pipe mche.
1" National washer machine.
2" National washer machine.
66" Allen air riveter.
No. 4 Langeleir swaging.
10 ton Morgan electric crane, 73'.
10 ton Shaw electric crane 65'.
5 ton Whiting electric crane, 35'.

Machinery Bulletin No. 210, describing our complete stock, mailed free on request.

HARRIS BROTHERS COMPANY
35th & Iron Sts., CHICAGO

LOOK—THESE—OVER

LATHES

16"x 6' Lodge & Shipley, q. c. g.
16"x10' Monarch, q. c. g.
16"x 6' Hendey, q. c. g.
18"x 8' Reed-Prentice grd. hd.
19"x10' LeBlond, q. c. g.
38"x28' American, geared head.
46"x17' New Haven, triple geared.

MILLING MACHINES

No. 2 Cincinnati universal.
No. 3 Cincinnati plain.
No. 5 LeBlond plain, motor drive.
No. 4G LeBlond plain, motor dr.
No. 1½ American plain.
No. 3 Brown & Sharpe plain, (2).
No. 3 LeBlond plain.
No. 3 B. & S. vert., s. p. drive.

RADIALS AND DRILL PRESSES

3' Bickford, cone drive.
4' Morris, s. p. drive.
5' Carlton, s. p. drive.
6' Dreses, motor drive.
24" Hoefer, stationary head.
24" Aurora, sliding head.
26" Hoefer, stationary head.
4-spindle Avey, b. b.

PUNCH PRESSES

No. 18 Bliss, o. b. inclinable.
No. 2½ Consolidated, o. b. inc.
No. 5 Etna, o. b. inc., 3" stroke.
No. 63 Consolidated s. s. press.
No. 34 Toledo, stiff back.
No. 31 Toledo, stiff back.
No. 17 Williams & White, 24" thr.
No. B Long & Allstatter, 18" thr.
No. 6 Whiting, single end.
No. 3 Bliss double crank.
No. 6 Waterbury-Farrel, tilt'g back.
No. 1½ Bliss toggle draw. press.
No. 10½ Badger Punch and Shear.
No. 64 Consolidated s. s. press.

PLANERS AND SHAPERS

24"x 6' Powell, 1 head.
30"x 8' Cincinnati, 1 head.
48"x36"x12' Cincinnati, 2 heads.
24" Kelley shaper, b. g.
20" Cincinnati shaper, b. g.
17" Smith & Mills, b. g.
16" Smith & Mills, cone drive.
16" Ohio, b. g. shaper.
16" Rockford, b. g. shapers.
16" Gould & Eberhardt shaper.

MISCELLANEOUS

Bolt cutters, 2½, 1½" & 1" Acme.
Boring mill, 42" Bullard vertical.
Boring mill, Fosdick 3" horizontal.
Boring mill, 16' Niles, 2 heads.
Brake, hand, 10' Robinson, 16 gauge.
Chain hoists, various sizes.
Hammer, steam, 800 lb. Niles.
Millers, hand, (6).
Presses, 30 & 50 ton Lucas forcing.
Press, 44" Wood hydraulic tire press.
Shear, 60" power square, 14 gauge.
Slotter, 10" Niles vertical.

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1 24" Weigel Drill Press.
3 Fellows Gear Shapers.
3 No. 6 Foster Screw Machines.
2 No. 4 Southworth Screw Machines.
1 No. 4 J. N. LaPointe Broach and Extension.
1 No. 3 Landis Universal Grinder 16x36.
1 14x50 Norton Plain Grinder.
1 12x96 Landis Plain Grinder.
1 26"x26"x8' E. C. Pease Planer.
1 6' Niles Radial Drill.
1 Webster & Perks Universal Grinder.
1 10½ Bardons & Oliver Turret Lathe.
1 Bryant Internal Grinder.
2 6" Gleason Generators.
1 No. 2 Warner & Swasey Hand Screw Machine.
2 No. 2 Leisy Patton Hand Screw Machines.
1 No. 2 LaPointe Broach, 2-spindle.
1 American High Pressure Blower.
1 6x15 Fitchburg Grinder.
1 Tilted Metal Cutting Band Saw.
1 3" National Bolt Cutter.
1 4" Acme Bolt Cutter, 4½" capacity.
1 Warner & Swasey Knee Type Boring Mill.
1 20"x14' F. E. Reed Screw Cutting Engine Lathe.
1 S. W. Putnam (Fitchburg) 44"x45' triple gear Engine Lathe, 11 H. P. motor.
1 Cordesman Iron Tilting Top Saw Table.
1 12" Cincinnati Manufacturing Miller.
1 3½x84 Fitchburg Lo-swing Lathe.
1 Curtis Oil Separator and Hoist.
3 32"x12' Pittsburgh Screw Cutting Engine Lathes.
1 14"x6' Hendey Lathe.
1 18" Cincinnati Miller, 95% new.
1 Cincinnati Tool and Cutter Grinder.

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LATHES AND BORING MILLS

30" (34½")x16' Lodge & Shipley Q. C. G. Lathe.
25"x12' LeBlond Q.C.G. Lathes (2).
13"x21"x8' Star Gap Lathe.
28" Gisholt Turret Lathe, belt driven.
3" & 4" Horiz. Boring Mills, (2).
42" Bullard Rapid Production Vertical Boring Mill, 220 Volt, D. C., M. Drive, turret head on rail.
42" Bullard Vertical Boring Mills.
37" Baush Vertical Boring Mill.

MILLERS AND GRINDERS

No. 5B Brown & S. Plain Miller.
No. 4 Cincinnati Plain Miller.
No. 3 Kempsmith Plain Miller.
No. 3 Kempsmith Universal Miller.
No. 3 Becker Vertical Miller.
No. 2½ LeBlond Plain, cone drive.
No. 2 Kempsmith Plain Miller.
No. 1 Cleveland Plain, S. P. D.
No. 13 Garvin Plain Millers, (2).
No. 60 Heald Cyl. Grinder, No. 2133.
12"x72" Norton Cylindrical Grinder.
4"x30" P. & W. Cylindrical Grinder.

RADIALS AND DRILL PRESSES

6' Bickford Plain Radial.
Sipp Single Spindle Sensitive.
Barr 6-Spindle Sensitive Drill.
No. 25 Foote-Burt Hvy. Duty, cap. 3".
24" Aurora Sliding Head Drill.
24" Weigel Sliding Head Drill.

SHAPERS—PLANERS—SLOTTERS

16" Stockbridge, Crank Shaper.
20" Smith & M. Crank Shaper, new.
10" & 18" Betts Slotters (2).
24"x24"x10' Chandler Planer.
30"x30"x 8' Pond Planer, 2 heads.
36"x30"x16' Whitcomb-B. Planer.
36"x36"x10' Pond Planer, 4 heads.
36"x36"x12' Pond Planer, 2 heads.
36"x36"x12' N. B. P. Planer, M. D.

HAMMERS

1100 lb. Bell Steam Forging.
1100 lb. N. B. P. Forging.
2000 lb. Bell Steam Forging.
200 lb. United Upright Power.
40 lb. Bradley Helve Hammer.

PUNCHES AND SHEARS

36" Cleveland Style EF, 1¼"x1".
21" Hilles & Jones S. E. 1"x¾".
12" Cleveland Style EF, 1¼"x1".
2" Doty Guillotine Bar Shear.

PNEUMATIC RIVETERS

Allen, 72" reach, 12" gap, 10" cyl.
Allen, 36" reach, 12" gap, 10" cyl.
Allen Compression (Angle) lever rive., 11½" dia. cyl., 9⅞" reach, 14" gap.

MISCELLANEOUS

No. 1 Baker Keyseater, capacity 1½" keyways.
24" Brown & Sharpe Gear Cutter.
No. 3B LaPointe Broaching Machine.
4"—6"—8" and 12" Pipe Machines.
No. 20B Bliss O.B.I. Flywheel Press.
P. & W. Flywheel Trimming Press.

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Factory Used and Factory Rebuilt

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An unusual opportunity to get a fully guaranteed Surface Grinder

Accuracy and performance equal to NEW

Act Quickly

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Real Bargains
Some Brand New

LATHES

18"x 8' Morris Q. C., New.
18"x10' Morris Q. C., New.
22"x10' Morris Geared Head, New.
22"x12' Morris Q. C., New.
32"x17' Pond Single B. G., Cone.
42"x16' Niles, T. G., Cone.

SHAPERS & SLOTTERS

16" S. G. Stockbridge - Worcester, New.
16" B. G. Stockbridge - Simplex, New.
15" Bement Slotter 220 v., D. C.

RADIALS

4' Morris radial, new.
5' Niles Universal Gear Box.
6' Niles Universal, Motor.

BORING MACHINES

5" Bar Niles Floor Borer.
18" P. & W. Side Head Mill.
42" Niles B. & T. Mill.
44" Niles, with R. H. Turret Head, 220 v., D. C.

PLANERS

32"x32"x10' Niles, 2 Heads.
32"x32"x12' Pond, 2 Heads, Motor.
36"x36"x10' Niles, 4 Heads.
36"x36"x10' Pond, 3 Hds., Rev. Mtr.
36"x36"x12' Pond, 4 Hds., Rev. Mtr.
38"x38"x12' Niles, 2 Heads.
38"x38"x16' Niles, 3 Heads.
42"x42"x12' Niles, 4 Heads.
42"x42"x14' Pond, 4 Heads, Motor.
48"x48"x16' Pond, 4 Heads.
48"x48"x20' Pond, 4 Heads, M. D.
10'x10'x36' Betts, Motor, 4 Heads.

PUNCHES & SHEARS, AND MISCELLANEOUS EQUIPMENT

Natco 16-spindle, No. 13 drill.
¾" Cap. L. & A. Plate Shear, Motor.
⅞" x ⅞" Cap. 12" Throat L. & A. Horizontal Punch, arran. for Mtr.
185 lb. Motor Driven Air Hammer.
800 lbs. Bement Sgl. Frame Hammer.
2" Cox Lever Grip Pipe Machine, D. C. Motor.
DA2-Wilson, 220 v., D. C. Welder.

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Chucking Machine, Potter & Johnston full automatic.
Grinder, No. 12 Brown & Sharpe plain cylindrical.
Grinder, No. 1, 10"x24" Brown & Sharpe universal.
Hammers, steam, 250 and 1100 lb. Niles-Bement-Pond.
Pulley Lathe, 36" Streit.
Miller, plain, No. 0 Brown & Sharpe.
Miller, universal, No. 2 Kearney & Trecker.
Planer, 48"x54"x10' Hamilton, 4 heads.
Screw Machine, automatic, 1¼" Cleveland model B.
Screw Machine, No. 4 Warner Swasey, grd. friction hd.
Shaper, 24" Gould & Eberhardt, back geared.
Shear, Gate, No. 65 New Doty gap, cap. No. 10 gauge.

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SPECIALS

Bending Rolls, 10'x½" Hilles & Jones, rebuilt.
Boring Mills, 50" Bickford, 42" Gisholt, Niles and Rockford horizontal.
Grinders, 18"x96" Norton, Brown & Sharpe, Modern and Morse.
Lathes, from 12" swing up to 48" swing, 5' to 30' length of beds.
Milling Machines, B. & S. Nos. 2-B Heavy and 3-B Heavy, also No. 3 B. & S. Vertical, LeBlond, Oesterlein and Kearney & Trecker machines.
Planers, 33"x10' Cincinnati, 2 heads; 30"x30"x16' Gray, 2 heads; 36"x12' Woodward & Powell; 24"x6' Pond.
Presses, 12—No. 30 Long & Allstatter Inclinable, 2200 lbs., in original crates. Willard Inclinables 3-A and 6-A, 50 Ton Lucas Forcing Press.
Shapers, Radials Drills, Keyseaters, Etc.

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Lot embraces many choice tools, such as American and Boye & Emmes Lathes, 6 Willard Inclinable Power Presses, Kokomo and Avey High Speed Drills, Brown & Sharpe and Kearney & Trecker Milling Mchs., Cincinnati Shaper, 4' Foadick late type Radial, ¾" to 2½" Gridley Automatics, Acme and Warner & Swasey Machines, No. 31 LUCAS Horizontal Boring Mill, etc.

Will gladly arrange for inspection of these tools or send you details by mail upon request.

Norton-Broadway Machinery Co., Cincinnati, Ohio

SIMMONS *New and Used* MACHINE TOOLS

ATTRACTIVE PRICES **MONEY BACK GUARANTEE**

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Boring Mills

2—24" Bullard New Eras.
3—24" Bullard R. P., side head.
1—34" Bertram (Niles) turret lathe.
1—36" Bullard New Era.
1—36" Bullard rapid production.
2—42" Bullard, two heads.
1—51" Bullard vertical mill.
1—54" Colburn, two heads.
1—60" Cincinnati vert., rapid trav.
1—72" Niles, rapid traverse.
1—10-16' Niles vertical exten. mill.
1—84" Pond spc. extra hvy, 2-hds.
1—No. 0-B Bement-N. horiz. mill.
1—3" Bar Barnes horizontal mill.
1—No. 2 Rochester horizontal mill.
1—No. 2 Rockford horizontal mill.
1— No. 3 Barrett horiz. boring mill.

Millers

1—Newton Slab 56x42x12'
1—48"x33"x20' Ingersoll.
1—No. 4 Cincinnati high power pl.
1—No. 4-G LeBlond pl., all geared.
1—No. 3 Brown & Sharpe plain.
1—No. 3-H LeBlond plain.
1—No. 3-B Hendey plain.
1—No. 3 Kempsmith plain.
1—No. 2 Cleveland plain.
1—No. 2 Rockford plain.
1—No. 1½ Cincinnati plain.
1—No. 1 Brown & Sharpe univ.
1—No. 1½ Brown & Sharpe univ.
1—No. 2 Kempsmith universal.
1—No. 3-B Milwaukee universal.
1—No. 1½ Milwaukee vertical.
1—No. 2½-B Milwaukee vertical.
2—No. 3 Cincinnati vertical.
1—No. 4 Cincinnati vertical.
1—No. 14 Garvin vertical.
2—5" Pratt-Whitney automatics.
1—6x132 Pratt-Whitney thread.
1—No. 3½ Pratt-Whitney duplex.
1—No. 2 Garvin duplex.
Hand Millers of all sizes.

Planers

1—72x72x18' D. & H. latest type.
1—62x62x14' Cincinnati, 4 heads.
1—60x60x26' D. & H., 3 heads.
1—60x60x14' Powell heavy, 2 heads.
1—42x42x26' Pond, 4 heads.
1—36x36x20' Woodward-P. rev. mtr.
1—36x36x16' N.-B.-P., 4 heads.

Planers—Continued

1—36x36x10' N.-B.-P., rev. type mtr.
1—36x36x10' Am., 4 hds., mtr. drive.
1—30x30x12 N.-B.-P. rev. motor.
1—30x30x18' Cincinnati Tu-Sp. hvy.
1—24x24x12' American, 2 heads.
4—26"x26"x12' Pond, single head.
2—26x26x6' Gray spur geared.

Drills

1—3' Fosdick radial.
1—3½' Cincinnati-Bickford radial.
1—5' Niles-Bement-P., semi-univ.
4—5' Western heavy duty plain.
1—6' American triple purpose.
1—6' American plain radial.
1—6' American triple geared plain.
1—6' N.-B.-P. universal, tap. att.
1—6' Bickford univ., tap. att.
5—7' Western heavy duty plain.
1—8-spindle Baush drill.
4—No. 2-D Moline 4,6 or 8-spindles.
1—No. 12 Pratt-Whitney mult. spdl.
1—No. 13 Pratt-W. mult., spdl.
1—No. 13 Natco mult. spindle.
3—No. 14 Natco univ. adj. mult.
1—No. 32 Natco mult. spindle.
1—No. 37 Natco mult. spindle.
3—No. 41 Natco str. line mult. spdl.
1—No 310 Baker drill.
1—4-spindle Dwight Slate drill.
2—4-spindle Allen high speed drills.
1—4-spindle Leland-Gifford drill.
1—3-spindle Allen high speed drill.
1—24" Rockford heavy duty drill.
9—28" Prentice sliding head drills.
2—32" Aurora sliding head drills.
1—42" Cincinnati-Bickford sli. hd.

Grinders

6— 6"x32" Norton plain.
1—10"x36" Norton plain.
3—14"x50" Norton grinders.
2—14"x72" Norton grinders.
1—No. 1 Brown-Sharpe universal.
1—No. 22 Brown-Sharpe internal.
1—No. 16—26" Blanchard vertical.
1—14" Pratt-Whitney vertical surf.
1—Springfield-Brandes vertical.
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La Salle Grinders

For Precision and Production

No. 1 Plain and Surface Grinder
(Micrometer Adjustment)

Grinding wheels	8"x1"
Between wheels	15"
Height to spindle center	40"
Table surface	8"x14"

Has vertical travel of 12" on guides, ¾" by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.

Spindle speed	2450 r.p.m.
Countershaft speed	800 r.p.m.
Floor space	18"x24"
Net weight	300 lbs.

La Salle No. 1 is equipped with every attachment to promote simplicity and speed in operation. The horizontal hand wheel carries a dial graduated to 1000ths of an inch, and as the divisions are 5/32nds of an inch apart, finer adjustments are easily obtainable. The knee may be brought to any position by means of the vertical hand wheel. Reamed bearings assure perfect alignment. Within its capacity no tool is more generally useful in tool room or shop. ***Its use insures precision.***

We are manufacturers of plain and automatic surface grinders for all needs, and American Twist Drill Grinders—each a leader in its field. Consult us concerning your grinding requirements. We are at your service, without obligating you to buy.

We are ready; write today

La Salle Tool Company

Ottawa, La Salle County, Illinois

Formerly of La Salle, Ill.

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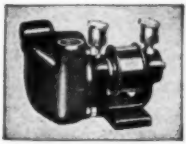

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